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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Charles D. Huston and Darryl J. Cornish

§ Group Art Unit: 2681
§ Examiner: Gregory Issing

Serial No. 10/772,071

§ Atty. Dkt. No. 5863-00203

Filed: February 4, 2004

For: METHOD AND APPARATUS FOR
MESSAGE DISPLAY ON A GOLF
COURSE

I hereby certify that this correspondence is being
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01/09/2006
Date

Pamela Gerik
Pamela Gerik

APPEAL BRIEF

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

Dear Sir:

The Appellant hereby appeals to the Board of Patent Appeals and Interferences the rejections of claims 21-39 and 41 as set forth in the first and final Office Action mailed May 20, 2005 and respectfully requests that this appeal be considered by the Board.

I. REAL PARTY IN INTEREST

The parties named in the caption are the real parties in interest.

II. RELATED APPEALS AND INTERFERENCES

A prior appeal may have a bearing on the Board's decision in this appeal. The present application is a continuation of Serial Number which 08/925,293 which was decided by this Board in Appeal No. 2000-0947. Appeal No. 2000-0947 was appealed to the Court of Appeals for the Federal Circuit 02-1048 decided October 17, 2002.

III. STATUS OF THE CLAIMS

Claims 21-39 and 41 are pending in the application and stand rejected. The attached Claims Appendix sets forth the currently pending claims.

IV. STATUS OF AMENDMENTS

No amendment has been proposed that has not been entered. (Applicants reserve the right to continue prosecution after the Board's decision and specifically notes several typographical errors.)

V. SUMMARY OF CLAIMED SUBJECT MATTER

Broadly, the present subject matter relates to a system and method for displaying messages and other information to a golfer on a golf course, and particularly to advertising messages displayed in a non-intrusive, non-distracting, tasteful manner and time. The messages are displayed based on the position of a golfer on a golf course using a Global Positioning Satellite system ("GPS") and comparing this GPS position with a database of message locations. The parent application, SN 07/804,368 now U.S. Pat. No. 5,364,093, described an invention for determining distances on a golf course using the Global Positioning Satellite system (GPS), e.g. the distance from the ball to the cup. While the '093 patent described generally the display of information to a golfer, it was most concerned with the display of distances and help information to the golfer. The present application refines how specific information – e.g. advertising, playing tips, warning messages, and other types of information – is communicated to the golfer based on the golfer's GPS position.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

All of the claims have been rejected as obvious under various combinations that all include Wang, Fukushima, and Dudley. The issues of this appeal are primarily § 103 issues related to these references. However, there is also a dispute as to the effect of Paul and Dimitriadis.

1. Is there motivation to make the proposed combination of Wang, Fukushima, and Dudley?
2. Do the proposed combinations disclose or suggest the claimed elements?
3. What is the effect of Paul?
4. What is the effect of Dimitriadiis?

VII. ARGUMENT

The subject matter of this application has a tortured history and, not surprisingly, unusual facts. The claims now presented on appeal are different than prior appeal 2000-0947 and, therefore, merit independent consideration. However, prior appeal 2000-0947 and the attendant Federal Circuit decision 02-1048 are relevant and included herewith in the Related Proceedings Appendix.

Prior appeal 2000-0947 dealt with the combination of Wang, Fukushima, and Dudley. Although the Paul reference (U.S. Pat. No. 5,524,081) was of record before the Board in prior appeal 2000-0947, Paul had not been discussed by the Examiner or Applicant in the record except in passing reference. Although the Board affirmed the rejection of the claims in prior appeal 2000-0947 based on the combination of Wang, Fukushima and Dudley, the Board mentioned in footnote 6 that “In our view, Paul is the closest piece of prior art (from the prior art before us in this appeal) to the claimed invention.” The Federal Circuit affirmed the Board, but disregarded the Board’s reliance on the combination of Wang, Fukushima, and Dudley by instead applying Paul as the motivation to combine references. The Federal Circuit would not have affirmed the hypothetical combination of Wang, Fukushima, and Dudley as applied by the Board in prior appeal 2000-0947 absent its finding that Paul provided the motivation to do so. See, e.g. the dissent at p. 21 “The majority concedes that the Board never “cited[d] the Paul reference for this purpose,” and the majority’s sole support for its conclusion is a passage from the Paul reference that does not appear in the Board’s opinion.”

Most of the rejections do not rely on Paul or Dimitriadiis. Of the rejections in paragraphs 3- 10 of the final Office Action, only paragraphs 6 and 9 apply Paul as a secondary reference, and only paragraphs 7-10 apply Dimitriadiis as a secondary reference. Under the Board’s appeal jurisdiction, 37 CFR 1.196(a), the Board is limited to “affirm or reverse the decision of the examiner . . . on the grounds and on the claims made by the examiner” Most of the rejections in the final Office Action do not

invoke consideration of Paul or Dimitriadis. Of course, the Board can find a new ground for rejection, 37 CFR 1.196(b) which leads to a different course of action.

1. **Without consideration of Paul, there is no motivation for the hypothetical combination of Wang, Fukushima and Dudley.**

The prior art rejections in the final Office Action were under 35 U.S.C. § 103(a) as being unpatentable over a combination of U.S. Patent No. 5,056,106 to Wang et al. (hereinafter “Wang”), U.S. Patent No. 5,270,936 to Fukushima et al. (hereinafter “Fukushima”), and U.S. Patent No. 5,326,095 to Dudley (hereinafter “Dudley”), and various secondary references, e.g., U.S. Patent No. 5,664,948 to Dimitriadis et al. (hereinafter “Dimitriadis”), Paul, “GPS: A Guide to the Next Utility,” by Hurn (hereinafter “Hurn”), and “RTCM Recommended Standards for Differential NAVSTAR GPS Service” (hereinafter “RTCM”).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966), establish the background for determining obviousness under 35 U.S.C. §103. The proposed combination of Wang et al. in view of Fukushima et al. and Dudley is not suggested or motivated by any of the references.

Turning to the scope and content of the prior art, the discussion of Wang in the Board’s prior decision (p. 9) is generally correct. Wang does not disclose using GPS on a golf course, determining distance on a golf course using GPS, or advertising on a golf course. (p. 13) Rather, Wang is directed to techniques for allowing golfers to determine distance and direction to key points on a golf course, and more particularly to a system for golf course distance determination. The system of Wang utilizes spread-spectrum signaling and code-division multiple access (CDMA) to allow a plurality of reference transmitters on a single course to operate on a non-interfering basis. (col. 2, lines 27-31)

Fukushima et. al. does show the use of GPS for navigation of vehicles (p. 10) Fukushima is directed to a vehicle map navigation system that utilizes GPS. According to the Fukushima disclosure, GPS receiver outputs coordinate data representing the absolute current position of the vehicle, which is supplied to a central processing unit (CPU). (col. 2, lines 51-56) A memory card contains data groups corresponding to predetermined geographical key points, with each data group including point “name” data and point coordinates. (col. 2, line 68 - col. 2, line 3) Of the key points stored in the memory card, the CPU determines the closest point and displays information concerning the name of the key point and

distance and direction to the key point. (col. 3, lines 7-20) Alternatively, the user may select among a set of the closest detected key points, and information concerning this selected key point will be displayed. (col. 4, lines 28-37) As another alternative, the user may select among any of the stored key points and have information displayed about that selected key point. (col. 5, lines 53-57) Because of the small size and the relatively low cost of the system, the system may be mounted on passenger cars, passenger tracks, bicycles and motorcycles, and may be carried by a person as a portable navigation system. (col. 6, lines 44-49)

Dudley does describe a golf information system for conveying information to a golfer. Dudley uses RF tags buried in the ground, such that when a golfer approaches a tag, certain information such as distance to the green can be conveyed. Dudley does say that advertising information can be conveyed when in proximity to a certain tag. (p. 12)

Dudley is directed to a system for providing yardage and position information at various points on a golf course hole based on proximity to a buried tag. In one embodiment, radio frequency (RF) identification tags are buried beneath the cart path on the golf hole at regularly spaced intervals. (col. 4, lines 1-5) Alternatively, the tags may be buried in a two-dimensional matrix so that readings are available at many more points and so that the cart does not have to remain on the cart path to receive information from the tag. (col. 4, lines 18-26) As a reading system passes over a tag, the reading system sends an interrogation signal that causes the tag to output its internally stored code. (col. 4, lines 5-9) This code may be utilized by the reading system to determine range information, such as distance to the green or a hazard. (col. 4, lines 10-13) In addition, the information to be output for each received tag code may be determined by a look-up table stored in the RAM of the reading system and correlated detailed sets of stored information. (col. 6, lines 46-50; col. 6, line 62 to col. 7, line 2) This look-up table may include advertising messages that are activated by particular tags. (col. 7, lines 13-16.)

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or references when combined must teach or suggest all the claim limitations. *In re Dembiczak*, 175 F.3d 994, 999, 50 U.S.P.Q.2d 1614, 1617 (Fed. Cir. 1999); *In re Dance*, 160 F.3d 1339, 1343, 343, 48 U.S.P.Q.2d 1635, 1637 (Fed. Cir. 1998) (“To establish a *prima facie* case of obviousness based on a combination of the

content of various references, there must be some teaching, suggestion or motivation in the prior art to make the specific combination that was made by the applicant.”) The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed Cir. 1991); MPEP §2143; *In re Rouffet*, 149 F.3d 1350, 47 U.S.P.Q.2d 1453 (Fed. Cir. 1998) (“When a rejection depends on a combination or prior art references, there must be some teaching, suggestion or motivation to combine the references.”); *Karsten Manufacturing Corporation v. Cleveland Golf Company*, 242 F.3d 1376, 1385, 58 U.S.P.Q.2d 1286 (Fed. Cir. 2001):

In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention.

The motivation to combine prior art references most often comes from the references themselves and must be clear. In particular, broad conclusory statements are not evidence of a motivation to combine. *Brown & Williamson Tobacco Corp. v. Phillip Morris, Inc.*, 229 F.3d 1120, 1125, 56 U.S.P.Q.2d 1456 (Fed. Cir. 2000). Regardless of the source, there must be some evidence of a motivation to combine. *In re Dembiczaik*, 175 F.3d at 999 (“The range of sources available, however, does not diminish the requirement for actual evidence. That is, the showing must be clear and particular.”). First, there is no suggestion in Wang et al. (A-9) to make the proposed combination. Wang is relevant only to show a golf positioning system based on fixed radio transmitter triangulation. Wang describes a golf course with a plurality of transmitters broadcasting a spread spectrum ranging signal. When Wang et al. was filed – August 2, 1990 – GPS was known, although GPS was not operational and very expensive. There is no suggestion of GPS in Wang et al., and there is no motivation to do so. Wang et al. describes its own positioning and ranging scheme. Dudley is also inapposite, as it operates on a dissimilar principle based on proximity to buried tags.

Of course, if the proposed modification or combination would change the principle of operation, then the references are not sufficient to render the claims *prima facie* obvious. *See, In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349 (CCPA 1959). The operating principle of Wang is based on ranging signals from ground-based transmitters. The final Office Action apparently concedes that Wang and Fukushima operate on different principles. Dudley operated to display information to a golfer based on proximity to a buried tag – *i.e.*, Dudley does not determine a position. Apparently, “Dudley is cited for its teaching of the desirability of transmitting advertisements to golfers at selected positions and not specifically to its

position determination methods.” What the final Office Action failed to recognize is that use of fixed radio towers (Wang) or proximity (Dudley) would change the operating principle of the claimed invention. Because the operating principle is part of the claims, the proposed combination does not meet the claim limitations. The rejection was thus in error.

Second, there is no reasonable expectation of success in view of the teachings of Wang. This reference teaches only ground-based spread spectrum ranging signals that are alleged to be highly accurate. Indeed, there is no need to provide error corrections such as described and claimed in the present application. The primary errors in GPS include intentional degradation (SA), ionospheric, multipath, atmospheric, clock, etc. These errors are not present in Wang et al. (although other errors exist). Indeed, Wang et al. (col. 3, lines 43-50) claims it is highly accurate, presumably eliminating any need for accuracy enhancement (e.g. error corrected) that GPS would even be desirable. In 1994 GPS was not operational and uncorrected positions exceeded 50 meters in error.

Finally, the claim limitations are not taught or suggested by the proposed combination. Again, Wang et al. teaches only the desirability of using an electronic aid for distance determinations and positioning on the golf course and a radio tower ranging and triangulation solution. As such, at most Wang et al. describes a problem searching for a solution.

A hypothetical combination must be suggested by one of the references or a motivation must be present in one of the references for such a combination. *Ex Parte Clapp*, 227 U.S.P.Q. 972 (Pat. Off. Bd. App. 1985). *In re Roufett*, 149 F.3d at 1355, U.S.P.Q.2d at 1456. The objective evidence of record – the references themselves and the Horne Declaration – teach away from the hypothetical combination. In holding an invention obvious in view of a combination of references, there must be some suggestion, motivation, or teaching in the prior art that would have led a person of ordinary skill in the art to select the references and combine them in the way that would produce the claimed invention. See, e.g., *Heidelberger Druckmaschinen AG v. Hantscho Commercial Prods., Inc.*, 21 F.3d 1068, 1072, 30 USPQ2d 1377, 1379 (Fed. Cir. 1994) (When the patent invention is made by combining known components to achieve a new system, the prior art must provide a suggestion, or motivation to make such a combination."); *Northern Telecom v. Datapoint Corp.*, 908 F.2d 931, 934, 15 USPQ2d 1321, 1323 (Fed. Cir. 1990) (It is insufficient that the prior art disclosed the components of the patented device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to

make the combination made by the inventor."); *Uniroyal, Inc. v. Rudkin-Wiley Corp.*, 837 F.2d 1044, 1044, 1051, 5 USPQ 1434, 1438 (Fed. Cir. 1988).

For example, *In re Sang-Su Lee*, 277 F.3d 1338 (Fed. Cir. 2002), the Federal Circuit emphasized, “[w]hen patentability turns on the question of obviousness, the search for and analysis of the prior art includes evidence relevant to the finding of whether there is a teaching, motivation, or suggestion to select and combine the references relied on as evidence obviousness.” 277 F.3d. at 1343, citing *McGinley v. Franklin Sports, Inc.*, 262 F.3d. 1339, 1351-52, 60 USPQ.2d. 1001, 1008 (Fed. Cir. 2001) (“the central question is whether there is reason to combine [the] references,” a question of fact drawing on the Graham factors).

2. The Proposed Combination(s) do not Suggest the Claimed Elements

Because none of the cited references suggest the distance determination techniques of the present invention, it is not surprising that the references do not suggest the limitations in the present claims. Claims 21 and 32 are the broadest independent claims and are directed to advertising on a golf course based on the GPS determined position of the golfer. For example, claim 21 calls for “displaying the advertising message” if “the present position of the remote receiver is an advertising location” where the position is determined with GPS. Wang et al. shows a golf course ranging system based on ground based spread spectrum transmitters, and as such, teaches away from GPS use. Fukushima teaches use of GPS for navigation, but does not suggest an application to distance determination on a golf course or a display of an advertising message at a predetermined location. Dudley suggests displaying advertising to a golfer based on proximity to a buried tag. The proposed combination of Wang, Fukushima and Dudley, even if proper, does not meet the claim limitations of Claims 21 and 32, e.g. displaying the advertising message based on “the position of the remoter receiver relative to the message locations” where the position is determined with GPS.

In addition, Wang, Fukushima and Dudley each are missing elements of claims 21, 32 and 41. Wang does not disclose at least using a GPS system to locate the position of a remote GPS receiver or displaying advertising information based upon the position of the GPS receiver, and Wang requires a distance request from the user for a distance to be provided. None of the references disclose at least “a memory storing a set of message locations on a golf course,” (Claim 32) or “determining the position of a remote receiver on a golf course using the global positioning satellite system,” (Claim 41) or using a GPS position to provide advertising messages to a golfer. Dudley does not disclose at least using a GPS

system to locate the position of a remote GPS receiver on a golf course or displaying advertising messages by comparing the relative position of the remote GPS receiver with respect to the position of stored message locations (e.g. Claim 41). In essence, what the Examiner has done is to piece together aspects from each of these references to assert that claims 21-39 and 41 are obvious. At best, the subject matter but not the claimed limitations of claims 21-39 and 41 are found in the disparate references. Simply put, the proposed combination does not meet the claim limitations of the independent claims, 21, 32 and 41.

Claim 41 adds the limitation that present positions on the golf course are corrected, e.g. using the corrections supplied by a local area or wide area correction. (See also Claim 31). In the prior appeal the Board in affirming the Examiner's rejection of claim 21 simply reasoned that "nonobviousness cannot be established by attacking the references individually" when the rejection is based on the combination. (p. 20) The combination applied versus claim 21 – Wang in view of Fukushima and Dudley and further in view of either Hurn or RTCM – is not, however, suggested by any of the references or any other evidence and in fact changes the operating principle of the proposed combination. Further, there is no motivation to correct the signals of Wang or Fukushima or the proximity of Dudley for greater accuracy using differential corrections.

Even if made, the proposed combination does not meet the claim limitations of claims 21 and 32. For example, claim 21 calls for "selecting one or more advertising locations" and "comparing the one or more advertising locations with the present position of the remote receiver" and displaying an advertising message on the golf course. The hypothetical combination does not describe a memory (Claim 32) for "storing a set of message locations on the golf course" and "displaying the message to the golfer" if the GPS receiver coincides with one of the message locations. A supposition of the Board might be that given the combination, an artisan skilled in RF theory and database and memories that managed golf courses could "figure it out" given the "applied prior art clearly teaches the benefits." (p. 20) The legal test is, however, whether the combination meets the claim limitations, which clearly it does not. *Graham v. John Deere Co.*, 383 U.S. 1, 148 U.S.P.Q. 459 (1966).

While appellant contests that Paul is prior art, it is true that Paul describes broadcasting information such as advertising to all golf carts over the communications link. (col. 8, lines 15-21) But such a teaching does not meet the claim limitations of claims 21, 32 or 41. For example, claim 21 provides that the advertising message is displayed when the position of the receiver means coincides with

one of the advertising locations. This limitation is not disclosed or suggested in any of the references of the proposed combination. *Stratoflex, Inc. v. Aeroquip Corp.* 713 F.2d 1530, 218 U.S.P.Q. 871 (Fed. Cir. 1983) (the issue is not whether the differences would have been obvious, but whether the claimed invention as a whole would have been obvious). See also, the last limitation of claims 32 and 41. Thus, the broadcast to all carts, as taught by Paul, does not meet the claim limitation.

3. **The effect of Paul.**

Applicant's disagreement with this application of Paul is that it has been assumed without analysis that Paul is an effective reference to the subject matter of positional advertising on a golf course. The Federal Circuit acknowledged that Paul did not show positional advertising, but nevertheless applied Paul as if Paul were effective prior art. What the parent application (SN 07/804,368, now U.S. Patent No. 5,364,093) DOES show is broadcasting by radio "other information" between golfers and a base station (see e.g. Col. 4 lines 60-69 of U.S. Pat. No. 5,364,093). What Paul DOES show are examples of information that may be broadcast by radio to golfers. (See, Paul, Col. 8, lines 16-20) (examples include advertising, weather alerts, notices).

SUBJECT MATTER DISCLOSED

	Pat No. 5,364,093	Paul reference	SN 10/772,071
Distance information to golfer based on GPS position	Yes	Yes	Yes
Radio broadcast of information	Yes	Yes	Yes
Radio broadcast of "advertising" information	No	Yes	No
Advertising information to golfer based on GPS position	No	No	Yes

Of course, 35 USC § 120 provides that a CIP, such as the present application, "shall have the same effect, as to such invention, as though filed on the date of the prior application . . ." This leads to the situation where a CIP can have different filing dates for different claims, but "matter disclosed in the parent application is entitled to the benefit of the filing date of the parent application." *Waldemar Link, GmbH v. Osteonics Corp.*, 32 F. 3d 556,558 (Fed. Cir. 1994).

Under the doctrine of inherency, new matter in a CIP may be entitled to the parent filing date. *Litton Sys., Inc. v. Whirlpool Corp.*, 728 F.2d 1423 (Fed. Cir. 1984) ("If matter added through amendment to a C-I-P application is deemed inherent in whatever the original parent application discloses, however, that matter also is entitled to the filing date of the original, parent application.") Therefore, if the present application was claiming the broadcast by radio of advertising information, an issue whether such a claim would be entitled to the parent filing date would arise, because the parent does disclose radio communication of "other information" between a golfer and a base station. Curiously, if Applicant were claiming the broadcast by radio of information to a golfer, Paul would not be an effective reference, but because Applicant is claiming subject matter not disclosed in Paul, Applicant seems to be worse off according to the Final Office Action.

If Paul is being cited for the proposition that information, such as advertising, may be broadcast by radio, then under the doctrine of inherency, Paul is not an effective reference.

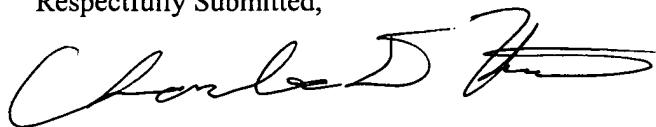
4. The Teaching of Dimitriadis

A Declaration under 37 CFR 1.131 swearing behind Dimitriadis was submitted February 17, 2005, but was deemed ineffective in the final Office Action. The Declaration evidences conception of the applicable subject matter prior to October 11, 1994 -- the effective date of Dimitriadis -- with diligence until filing on December 30, 1994. Submitted with the Declaration were five (5) pictures of screen shots from a Macintosh computer evidencing creation of the specification on August 13, 1994. This is prior to the October 11, 1994 effective date of Dimitriadis. The final Office Action is correct in noting that Dimitriadis is a CIP of SN 08/282,893 filed July 29, 1994 now U.S. Patent No. 5,627,549 to Park. However, the final Office Action applies new matter, found in Dimitriadis, not found in Park. That is, the subject matter applied by the Final Office Action is matter added to Dimitriadis after October 11, 1994 and not prior art to the claims on appeal. The Declaration submitted was effective for the subject matter cited in the Final Office Action.

VIII. CONCLUSION

In conclusion, the claims currently presented are allowable over the § 103 issues raised in the final Office Action, and applicant respectfully requests reconsideration and allowance in view of the traversal herein.

Respectfully Submitted,



Charles D. Huston
Registration No. 31,027
Attorney for Appellant

Daffer McDaniel, LLP
P.O. Box 684908
Austin, TX 78768-4908
Date: January 9, 2006

IX. CLAIMS APPENDIX

21. A method for displaying an advertising message to a golfer on a golf course using a global positioning satellite system comprising the steps of:

positioning a remote global positioning satellite receiver on the golf course;

determining a present position of the remote receiver on the golf course using the global positioning satellite system;

selecting one or more advertising locations on the golf course;

comparing the one or more advertising locations with the present position of the remote receiver;
and

displaying the advertising message to the golfer if the present position of the remote receiver is an advertising location.

22. The method of claim 21, including a step of determining if the remote receiver is moving using said position and displaying said message when the remote receiver is moving.

23. The method of claim 21, including a step of determining if the remote receiver is moving using said position and displaying said message when the remote receiver is not moving.

24. The method of claim 22, the step of determining if the remote receiver is moving including the substeps of determining another position of the remote receiver and comparing said position and said other position to determine if the remote receiver is moving.

25. The method of claim 21, said message comprising a graphic depiction.

26. The method of claim 21, the displaying step including displaying a golf hole layout on said golf course at other locations on the golf course.

27. The method of claim 21, the displaying step including displaying golf information in addition to said advertising message at other locations on the golf course.

28. The method of claim 27, said golf information comprising a scorecard.

29. The method of claim 27, said golf information comprising a refreshment order page.

30. The method of claim 21, including a step of determining an approximate distance of a golf ball to a feature on the golf course including the substeps of storing the location of the feature in a database, positioning the remote receiver proximate to a golf ball, and determining the distance between said stored feature location and said remote receiver position.

31. The method of claim 21, including a step of determining an error correction for the global positioning satellite system comprising the substeps of:

positioning a global positioning satellite receiver at a reference location having a known position;

determining an apparent position of the reference location using the receiver; and

calculating an error correction based on said apparent position and said known position of the reference location.

32. An apparatus for displaying a predetermined message to a golfer on a golf course using a global positioning satellite system comprising:

a global positioning receiver for receiving signals indicative of an apparent position of the receiver means using the global positioning satellite system and positionable on the golf course;

a processor linked to said global positioning receiver for determining the position of the receiver on the golf course;

a memory storing a set of message locations on the golf course;

a processor for comparing the position of the receiver with the message locations; and

a display for displaying the message to the golfer when the position of the receiver is at a message location.

33. The apparatus of claim 32, said display being operable for displaying a graphic representation of said message.

34. The apparatus of claim 33, said display including a digitizer overlaying said graphic representation and a pen operable for providing inputs to said display.

35. The apparatus of claim 32, said display being operable for displaying a graphic representation of a golf hole to the golfer.

36. The apparatus of claim 32, said memory operable for storing different advertising messages and said processor operable for displaying different messages at different positions of the receiver on the golf course.

37. The apparatus of claim 32, wherein a message is a player tip associated with a location.

38. The apparatus of claim 32, said display being connected to the global positioning receiver for displaying the message based on movement of the receiver on the golf course.

39. The apparatus of claim 32, said display being operable for displaying a message based on an activity of the golfer.

41. A method for displaying a message to a golfer on a golf course using a global positioning satellite system comprising the steps of:

positioning a remote global positioning satellite receiver on the golf course;

determining a present position of the remote receiver on the golf course using the global positioning satellite system;

correcting said present position of the remote receiver;

storing one or more messages associated with one or more locations on the golf course in a memory of the remote receiver;

comparing the one or more message locations with a position of the remote receiver; and

displaying the associated message to the golfer if a position of the remote receiver is a message location.

X. EVIDENCE APPENDIX

Declarations under 37 CFR § 1.131 were entered during the prosecution of the captioned case related to antedating Dimitriadis and Takahata. The Takahata Declaration was deemed sufficient to overcome the rejection. The Dimitriadis Declaration was considered, but deemed ineffective. Additionally, the Declaration of Rick Horne is of record and is relevant to at least claim 37 on appeal. Copies of the Declarations are included herewith.

XI. RELATED PROCEEDINGS APPENDIX

A prior appeal may have a bearing on the Board's decision in this appeal. The present application is a continuation of Serial Number which 08/925,293 which was decided by this Board in Appeal No. 2000-0947. Appeal No. 2000-0947 was appealed to the Court of Appeals for the Federal Circuit 02-1048 decided October 17, 2002. Copies of both decisions are included herewith.



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Huston et al.

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Group Art Unit: 2681
Examiner: Gregory C. Issing

Serial No. 10/772,071

888

Atty. Dkt. No. 5863-00203

Filed: February 4, 2004

8

For: METHOD AND APPARATUS FOR
MESSAGE DISPLAY ON A GOLF
COURSE

I hereby certify that this correspondence is being transmitted via facsimile or deposited with the U.S. Postal Service with sufficient postage as First-Class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313, on the date indicated below.

2/17/05
Date

Pamela Gerik
Pamela Gerik

DECLARATION OF CHARLES D. HUSTON UNDER 37 C.F.R. § 1.131
REGARDING DIMITRIADIS ET AL.

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

I, Charles D. Huston, hereby declare and state that:

1. I am a named inventor in the above-identified patent application, which is U.S. Patent Application No. 08/926,293, filed on Sept 5, 1997, which is a continuation of U.S. Patent Application No. 08/366,994 filed December 30, 1994 which is a continuation in part of U.S. Patent Application No. 08/313,718 filed Sept 22, 1994, which in turn is a continuation in part of U.S. Patent Application No. 07/804,368 (U.S. Pat. No. 5,314,093) filed December 10, 1991.

2. In the present application, certain claims have been rejected in reference to U.S. Patent No. 5,664,948 to Dimitriadis et al., which issued on Sept 9, 1997 and was filed on October 11, 1994. The '948 patent also claims priority from U.S. Pat. Nos. 08/282,893 and 08/283,276 both filed on July 29, 1994, but the subject matter cited by the Examiner in this case appears to have been first presented October 11, 1994.

3. In the present application, certain claims have been rejected based on certain subject matter of Dimitriadi et al, namely: "Dimitriadi et al teach the conventionality of providing both position and condition-based advertisement message presentation wherein a GPS-determined position (80) and optionally a condition (440b), is compared to a database resource 90 having advertisement messages correlated with advertisement locations/and/or times . . ." The effective date of this subject matter appears to be October 11, 1994.

4. As supported below, I, along with Darryl Cornish, conceived of the subject matter claimed in the present application within the United States before October 11, 1994. The subject matter includes an apparatus and method of displaying messages to a golfer based on location or activity of the golfer. One embodiment of the subject matter included memory for storing messages and for displaying the different messages based on position on the golf course.

5. Exhibit A attached hereto is a true copy of a screen printout of the Macintosh computer (LC III) that was used to create the captioned application. The "AD CIP" file was created prior to October 11, 1994. The "Get Info" function of the Macintosh reveals that the first drafts of the "Ad Specification," "Ad Claims," and "Ad Abstract" were all created before October 11, 1994. Attached as part of Exhibit A are photographs of the screen showing the "Get Info" results. Exhibit A shows the CIP patent application relating to "Advertising" based on the parent application relating to use of GPS on golf courses was commenced before October 11, 1004.

6. Exhibit B are the printouts of the "Ad Abstract" and the "Ad Claims" listed in the screen printout of Exhibit A. First drafts were created prior to October 11, 1994 as demonstrated by the "Get Info" function (*see* Exhibit A). The "Ad Specification" was also created prior to October 11, 1994.

7. Exhibit C attached hereto is a true copy of a screen printout of the Macintosh computer (LC III) that was used to create the captioned application. Various figures in the "Ad Drawings" file were created prior to October 11, 1994. The "Get Info" function of the Macintosh reveals that the first drafts of the Figs. 5 and 6 were not created before October 11, 1994, but all remaining Figures have first drafts created before October 11, 1994. Of course, several of the Figures are from the parent application. Figure 1 (attached as part of Exhibit C) was created before October 11, 1994 and was "last modified" September 14, 1994, as shown. From Figure 1 and the accompanying text (*see* specification pp. 11-12), messages to the golfer (in the case "Tips") are displayed based on the golfer's location and are stored in memory 25.

8. From at least a time just prior to October 11, 1994 through the filing of the application on December 30, 1994, preparation of the captioned patent application continued. We did not abandon, suppress, or conceal the ideas set forth in the claimed invention during at least the time beginning just prior to October 11, 1994 through the filing of the application on December 30, 1994. One of the drawings of Exhibit C was created in September 1994 and another in November 1994 showing continued work on the preparation of the application.

9. Upon information and belief, it is my informed understanding that diligence in reducing the invention to practice was therefore maintained from at least as early as just prior to October 11, 1994 through the filing of the application on December 30, 1994.

10. I declare that all statements made herein of my own knowledge are true, and that all statements of my own belief are believed to be true, and further that these statements were made with the knowledge that willful false statements are punishable by fine or imprisonment, or both, under the United States Code, Title 18 § 1001, and that such willful false statements may jeopardize the validity of the patent, and any reexamination certificate issuing thereon.

FCH
17 Jan 2005
Date


Charles D. Huston

EXHIBIT A

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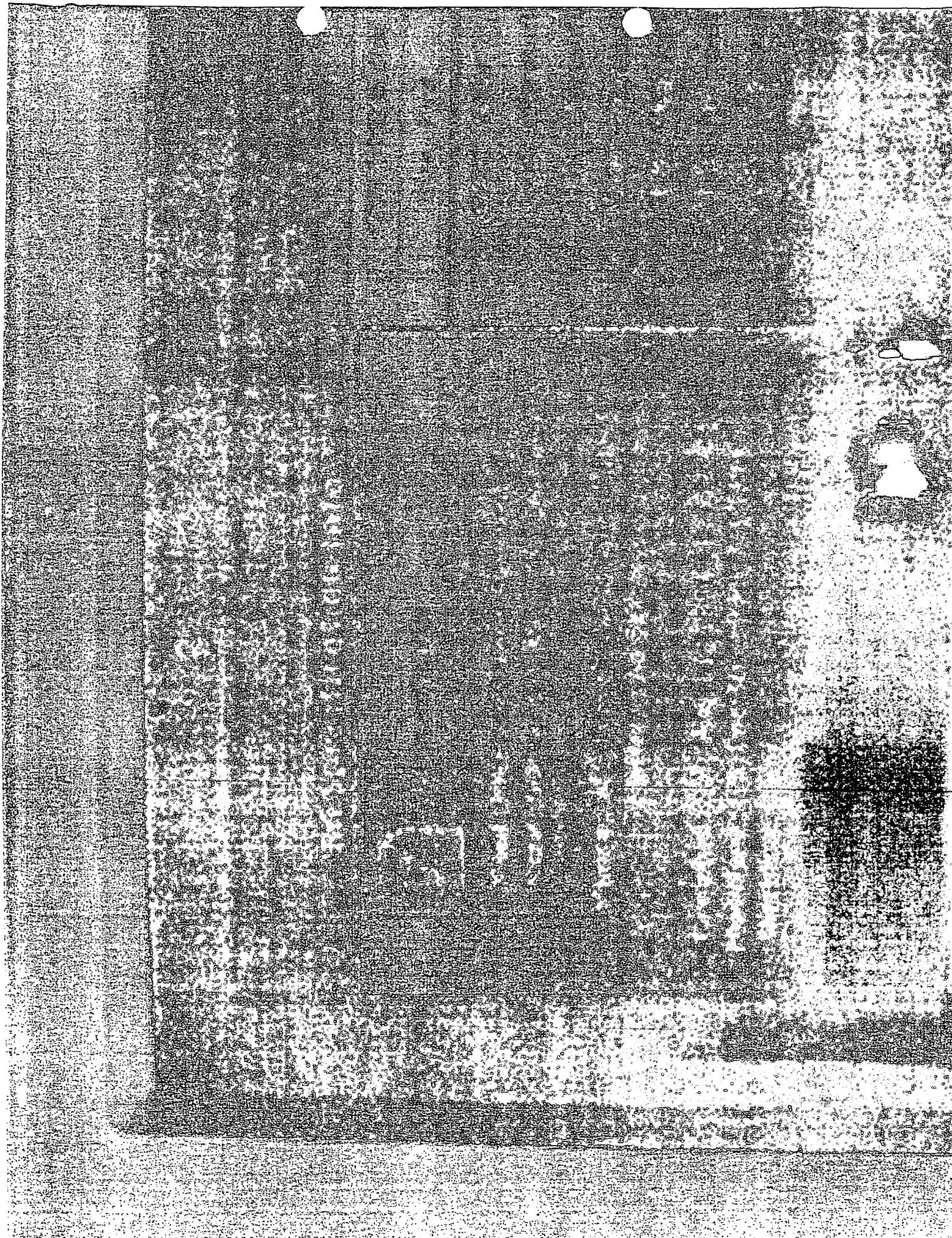
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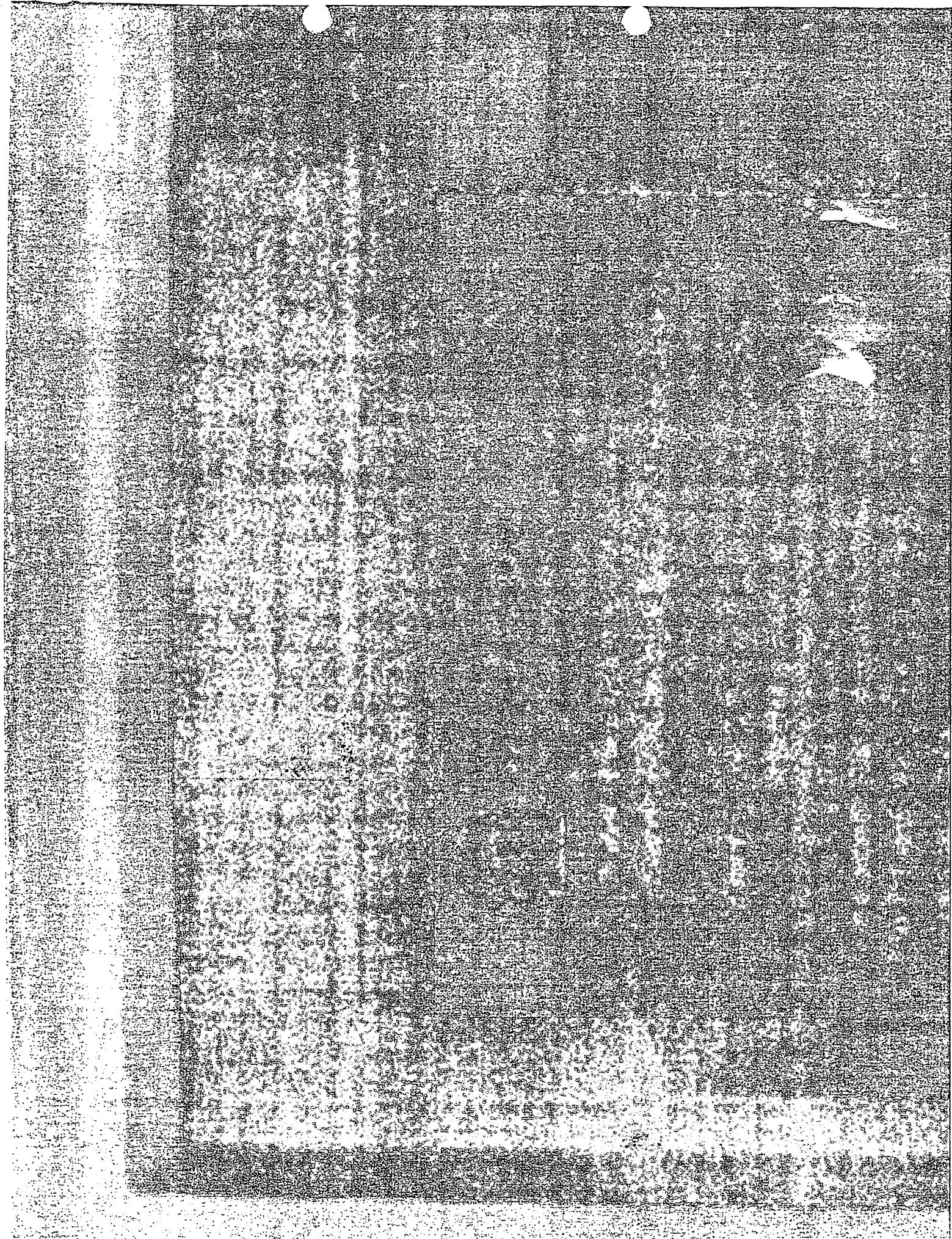
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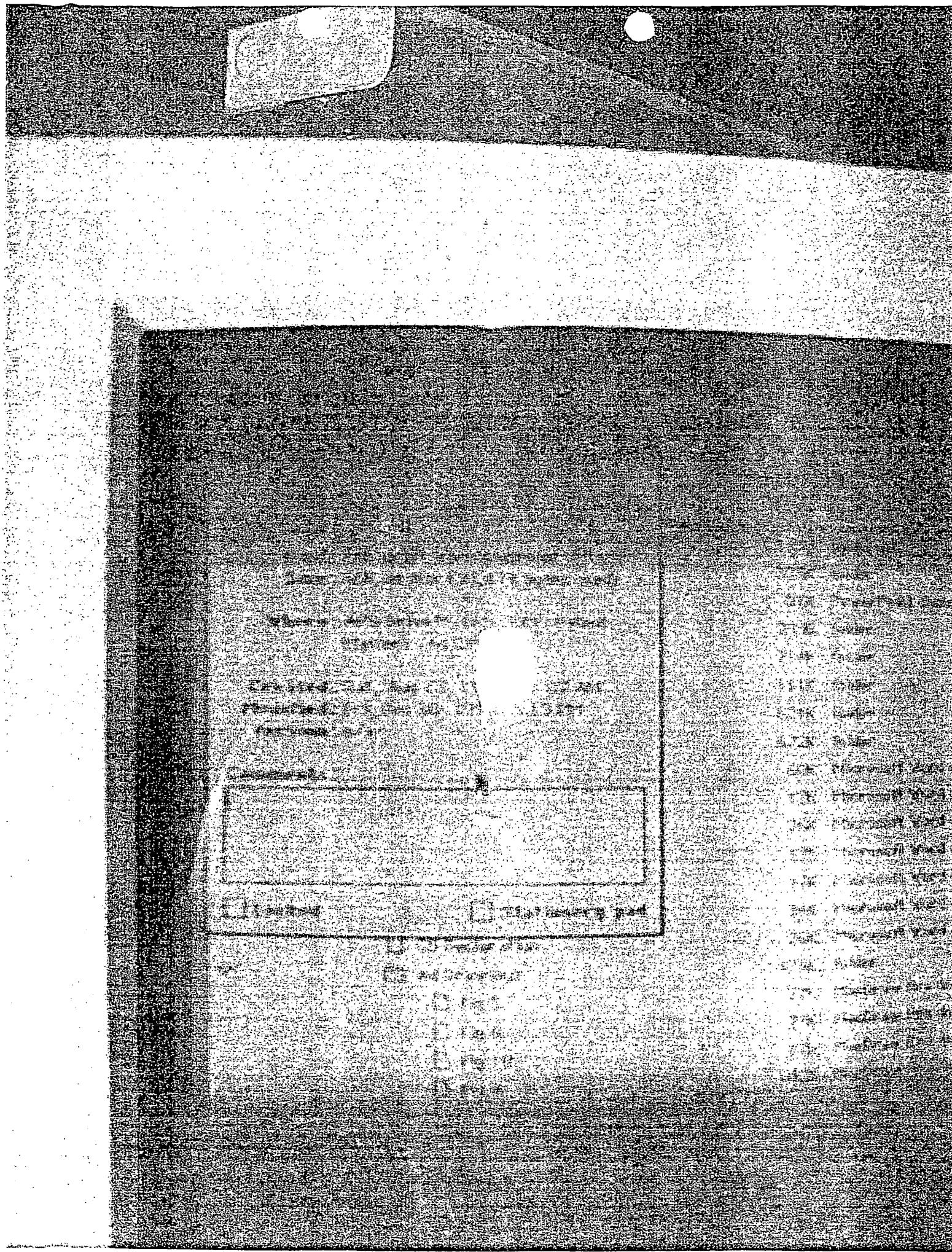
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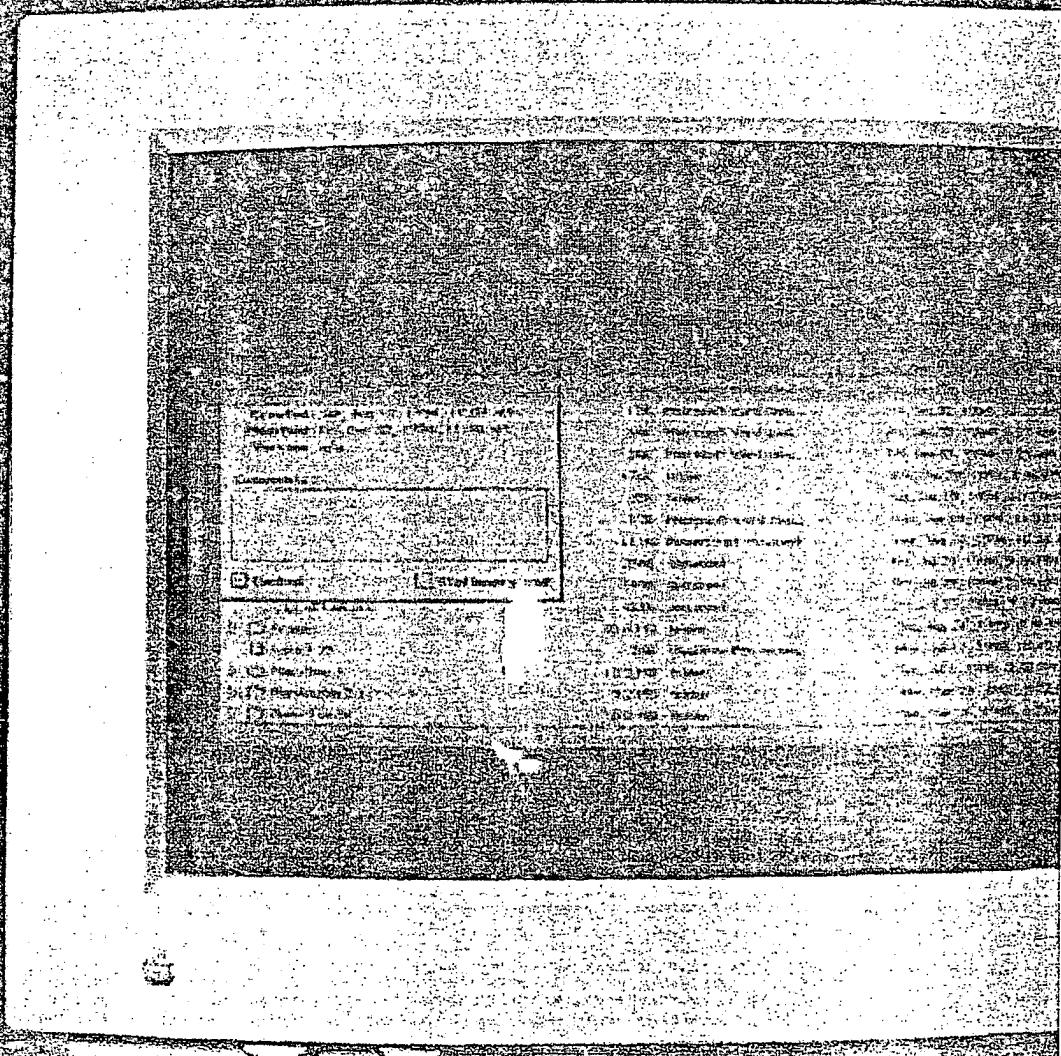
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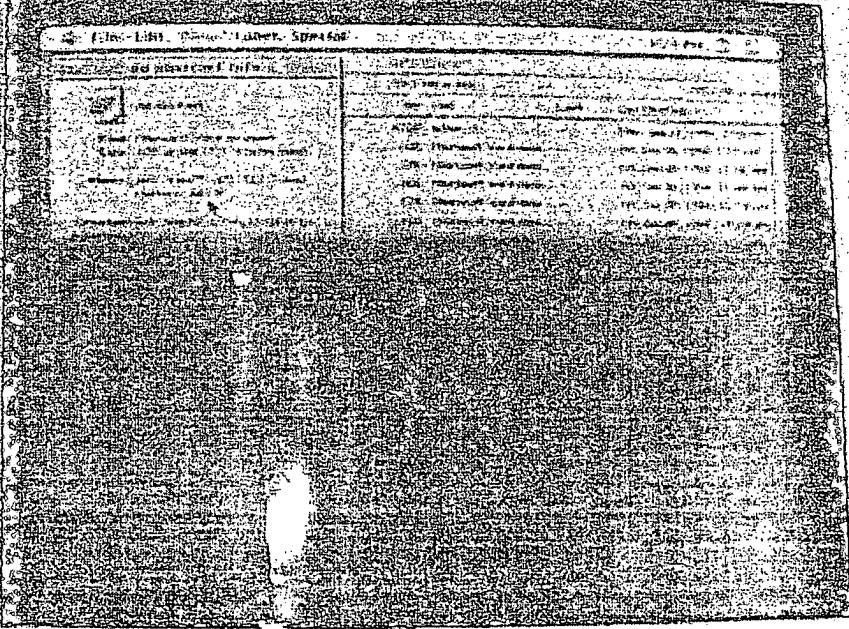


EXHIBIT B

ABSTRACT OF THE DISCLOSURE

A method, apparatus, and system is described for displaying a message to a golfer on a golf course. The system includes a number of GPS receivers attached to carts (or handheld) which display golf information and/or messages. The GPS receiver includes a display which can show the distance to the golf cup or other feature on a golf hole. The display can show a message, such as an advertising message, to the golfer. The message is shown at convenient, nonintrusive times. For example, such messages are shown at predetermined locations on the golf course such as before the first hole, after the last hole, or between holes. Additionally, such messages can be displayed using location information to determine if the receiver is moving or stopped. Finally, such messages may be displayed based on the activity of the golfer, such as scorecard input or refreshment ordering. In a preferred form, a pen input display capable of graphics is used. The system also includes a pro shop monitor where the location of each GPS receiver is shown on the golf course. The pro shop can send messages to all receivers or individual receivers.

, as I created

Aug 13, 1994

We Claim:

1. A method for displaying a message to a golfer on a golf course using the global positioning satellite system comprising the steps of:
 - positioning a remote global positioning satellite receiver on the golf course;
 - determining a position of the remote receiver on the golf course using the global positioning satellite system; and
 - displaying the message to the golfer at predetermined locations based on the position of the remote receiver.
2. The method of claim 1, said message comprising an advertising message to the golfer.
3. The method of claim 1, including the step of determining if the remote receiver is moving using said position and displaying said message when the remote receiver is moving.
4. The method of claim 3, the step of determining if the remote receiver is moving including the substeps of determining another position of the remote receiver and comparing said position and said other position to determine if the remote receiver is moving.
5. The method of claim 1, said message comprising a graphic depiction.
6. The method of claim 1, the displaying step including displaying a golf hole layout on said golf course at other locations on the golf course.
7. The method of claim 1, the displaying step including displaying golf information in addition to said message at other locations on the golf course.
8. The method of claim 7, said golf information comprising a scorecard and said message comprising an advertising message.
9. The method of claim 7, said golf information comprising a refreshment order page and said message comprising an advertising message.

10. The method of claim 1, including the step of determining the approximate distance of a golf ball to a feature on the golf course including the substeps of storing the location of the feature in a database, positioning the remote receiver proximate to a golf ball, and determining the distance between said stored feature location and said remote receiver position.
11. The method of claim 1, including the step of determining an error correction for the global positioning satellite system comprising the substeps of -
 - positioning a global positioning satellite receiver at a reference location having a known position,
 - determining the apparent position of the reference location using the receiver, and
 - calculating an error correction based on the apparent position and the known position of the reference location.
12. An apparatus for displaying a message to a golfer on a golf course using the global positioning satellite system comprising:
 - a global positioning receiver means for receiving signals indicative of the apparent position of the receiver means using the global positioning satellite system and positionable on the golf course;
 - means linked to said global positioning receiver means for determining the position of the receiver means on the golf course; and
 - display means for displaying the message to the golfer.
13. The apparatus of claim 12, said display means being operable for displaying a graphic representation of said message.
14. The apparatus of claim 13, said display means including digitizer means overlaying said graphic representation and a pen operable for providing inputs to said display means.
15. The apparatus of claim 12, said display means being operable for displaying a graphic representation of a golf hole to the golfer.

16. The apparatus of claim 12, said apparatus including memory means for storing different advertising messages and means for displaying different messages at different positions of the receiver means on the golf course.
17. The apparatus of claim 12, including means for communicating messages to the display.
18. The apparatus of claim 12, said display being connected to the global positioning receiver means for displaying the message at predetermined positions of the receiver means on the golf course.
19. The apparatus of claim 12, said display being operable for displaying the message based on the activity of the golfer.
20. The apparatus of claim 10, wherein said activity is a golf score input.

EXHIBIT C

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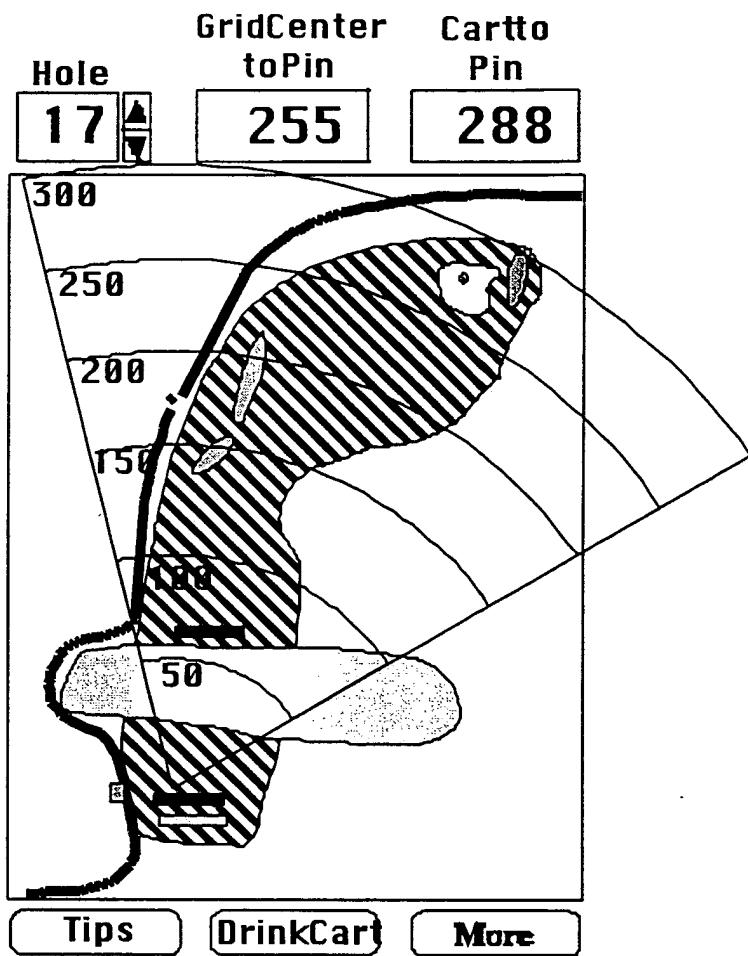
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▀ Red Air	136K	folder	—	Sat, Oct 22, 1994, 7:08 PM
▀ Seldom Used Archive.sit	31.1 MB	StuffIt Deluxe archive	—	Sat, Oct 22, 1994, 2:34 PM
▀ SimpleText	60K	application program	—	Mon, Jul 25, 1994, 6:00 PM



JDH
12/22/04

Get Info

Created: Fri, Jul 1, 1994, 9:02 AM
 Modified: Sun, Aug 14, 1994, 11:53 AM

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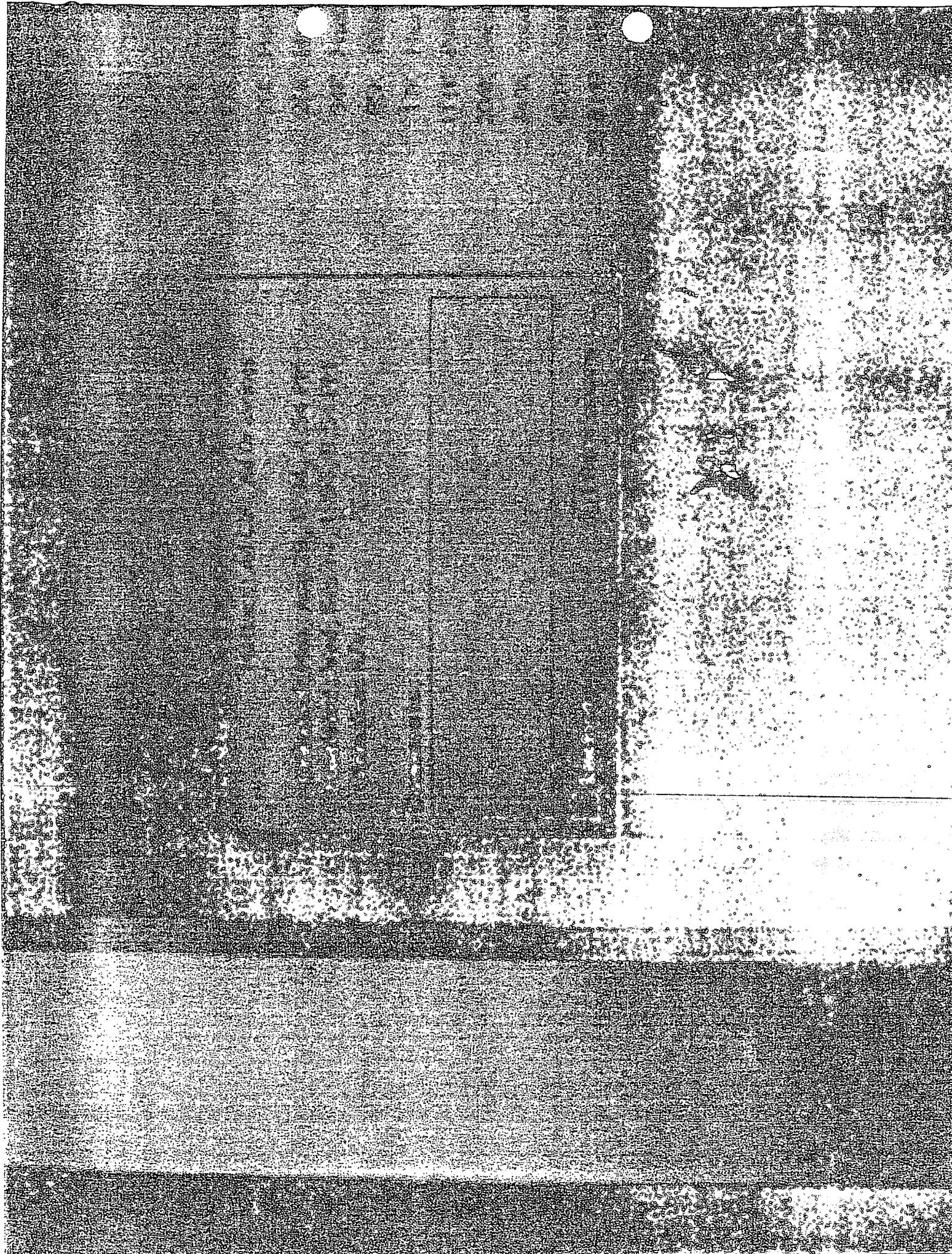
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More



PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:
Huston et al.

§ Group Art Unit: 2681
§ Examiner: Gregory C. Issing

Serial No. 10/772,071

§ Atty. Dkt. No. 5863-00203

Filed: February 4, 2004

For: METHOD AND APPARATUS FOR
MESSAGE DISPLAY ON A GOLF
COURSE

I hereby certify that this correspondence is being
transmitted via facsimile or deposited with the U.S. Postal
Service with sufficient postage as First-Class mail in an
envelope addressed to: Commissioner for Patents, P.O. Box
1450, Alexandria, VA 22313, on the date indicated below.

2/17/05
Date

Pamela Gerik
Pamela Gerik

DECLARATION OF CHARLES D. HUSTON UNDER 37 C.F.R. § 1.131
REGARDING TAKAHATA

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313

I, Charles D. Huston, hereby declare and state that:

1. Daryl Cornish and I are co-inventors of the subject matter claimed in U.S. Patent No. 5,364,093 ('093 Patent), which was issued on November 15, 1994. In addition, we are co-inventors of the captioned application. The Office Action mailed September 17, 2004 has cited as a reference against certain claims JP 3-134715 to Takahata et al. with an effective date of June 7, 1991.
2. In about February 1991, I began drafting the '093 Patent application while obtaining input (information and notes on specific embodiments of the invention) from Daryl Cornish. Exhibit A attached hereto is a printout from my Macintosh computer showing drafts of claims and abstract, created in February 1991. In addition, Exhibit A shows the "Last Modified" dates for various figures.
3. Patent preparation was difficult after the initiation of the Gulf War because of my military obligations, and was discontinued after April 3, 1991 when I was called to active duty by the Air Force Reserves, for F-16 training as a result of the Gulf War. A copy of my orders is attached hereto as Exhibit

B. During this time, I was unable to continue my work on the patent application as a result of my military obligations.

4. Formal training lasted under July 3, 1991, but my military obligations continued through November 1991 as indicated by my day planner for the period from July 1991 through December 15, 1991, attached hereto as Exhibit C, and by my Aircraft Logs attached hereto as Exhibit D.

5. Upon my return to work at Schlumberger on July 8, 1991, following the Fourth of July holiday, I was greeted by a mountain of work that had accumulated during my absence.

6. As such, during July and early August, the entirety of my time was consumed between my continuing military obligations and the backlog of work that had piled up at Schlumberger (*See Exhibits C and D*).

7. The remaining portion of August and early September was consumed by a vacation and my Mother's illness and death (*See Exhibit C*). Specifically, my vacation ran from Saturday, August 10, 1991 until Sunday, August 18, 1991, and consisted of a trip to Nebraska to visit family and attend a family reunion. My Mother's illness and death occupied my time from August 27, 1991 until September 16, 1991.

8. Following my mourning period, I returned to Schlumberger on September 6, 1991 and continued to catch up on my job duties, as well as prepare revised drafts of the '093 Patent application, and flying for the Air Force on at least six days in connection with my combat qualifications. Around this same time, I was also required to travel to Europe on Schlumberger business, which lasted from September 23, 1992 through October 12, 1991, during which time Daryl Cornish and I attended the same Schlumberger software conference (*See Exhibits C and D*).

9. Upon my return from Europe, my time was again consumed between Schlumberger and combat qualifications. In this regard, I flew five days in October 1991 and seven days in November 1991, including additional days of non-flying time, such as weekend drill (*See Exhibits C and D*).

10. Specifically, as indicated by my calendar and flight log (Exhibits C and D), I went to a family reunion in Nebraska from August 10, 1991 until August 18, 1991; I was on military status (actual flight days) on September 7, 8, 18, 19, 21, and 22, 1991; I went to Europe on Schlumberger business from

September 23, 1991 until October 12, 1991; and I was on military status (actual flight days) on October 17, 19, 23, 30, and 31, 1991 and November 1, 2, 5, 16, 17, 19, and 26, 1991. In addition, I pulled more military duty than shown by my flight days, listed above.

11. In the midst of my busy schedule, I continued to revise the application for the '093 Patent during September, October, and November 1991. The attached computer files are evidence of continuing work during this period, although my computer overwrites the date for each computer file with the date the file was last modified.

12. In addition to the activity described above, also during November 1991 and early December 1991, Daryl Cornish and I reviewed the '093 Patent application and discussed changes and revisions thereto.

13. Daryl Cornish's input regarding radio communication was one item I was waiting on to complete the '093 Patent application.

14. In addition, Daryl Cornish and I had been attempting to obtain a GPS receiver to build a working model, such efforts proved unsuccessful since the Gulf Ware largely used up any remaining supply of GPS receivers.

15. The Patent Office originally indicated that the Takahata reference had a publication date of September 1991. I now understand the Patent Office believes the effective date of Takahata is June 7, 1991.

16. Upon information and belief, it is my informed understanding that diligence in reducing the invention to practice was therefore maintained from at least as early as just prior to June 7, 1991 through the filing of the parent application on December 10, 1991. We did not abandon, suppress, or conceal the ideas in the application for the '093 Patent during at least the time beginning just prior to June 7, 1991 through the filing on December 10, 1991.

17. I declare that all statements made herein of my own knowledge are true, and that all statements of my own belief are believed to be true, and further that these statements were made with the knowledge that willful false statements are punishable by fine or imprisonment, or both, under the United States

Code, Title 18 § 1001, and that such willful false statements may jeopardize the validity of the patent, and any reexamination certificate issuing thereon.

17 February 2005
Date

Charles D. Huston
Charles D. Huston

EXHIBIT A

58 items

259 MB in disk

255.2 MB available

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▼ <input type="checkbox"/> USAF	2.4 MB	folder	—	Thu, Nov 28, 1996, 3:38 AM
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APS Drive™

58 items

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GPS Golf Duplicate

13 items

151.1 MB in disk

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<input type="checkbox"/> Fig 10 - Cart to Pin	10K	document	—	Wed, Mar 27, 1991, 8:19 AM
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<input type="checkbox"/> FIG 2 -Remote Unit copy	10K	document	—	Wed, Feb 20, 1991, 8:03 AM
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<input type="checkbox"/> Fig 9 - Projections	10K	document	—	Tue, Dec 10, 1991, 10:38 AM
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<input type="checkbox"/> Specification	33K	Microsoft Word docu...	—	Fri, Nov 29, 1991, 6:24 PM

EXHIBIT B

REQUEST AND AUTHORIZATION FOR ACTIVE DUTY TRAINING/ACTIVE DUTY TOUR
(THIS FORM IS SUBJECT TO THE PRIVACY ACT OF 1974-USE BLANKET PAS-AF FORM 11)BY ORDER OF THE SECRETARY
OF THE AIR FORCE

5. GRADE, NAME (Last, First, MI) CAPT HUSTON, CHARLES D	2. ASN 508-72-3322	3. SECURITY CLEARANCE TOP SECRET	4. DAFSC 01115F				
6. UNIT OF ASSIGNMENT 704 TAC FTR SQ BERGSTROM AFB TX 78743-5000	6. PAY CODE S10TFLLH	7. PRIMARY DEPN J001 L	8. PAY CODE COA -				
9. PREVIOUS ADDRESS 4607 TRAIL WEST DRIVE AUSTIN TX 78735-0000	10. CORPORATE LIMITS OF DUTY STATION <input type="checkbox"/>	11. COMMUTING AREA CON <input type="checkbox"/> Y001(3) <input checked="" type="checkbox"/> NO(1)	12. AUTHORIZED TO PARTICIPATE IN FLYING ACTIVITIES THIS TOUR <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				
11. Mbr is ordered to AD for 92 days plus auth tnv time	13. TYPE OF TOUR SCHOOL	14. DATES OF TOUR 17 APR - 28 APR 1991					
12. AUTH AT TNL AT TNL DAYS N/A	15. AT DAYS SOLICITED THIS YR	16. AT ROUND TRIPS THIS YR (will not contribute)	17. TRAVEL CATERING 28 OPM				
18. WILL REPORT TO (Unit and location) BLDG 48 MCCONNELL AFB KS 78211	19. REPORTING DATA (How) KCOM/By 140, 71 (CZCZ) 0730 03 APR 91	20. RELEASE DATE (Dy, Mo, Yr) 03 JUL 91	21. MEAN COST COB N/A				
22. VARIABLE TOUR STATEMENT. (Applies to AFRES rates only.) If member remains on specia/school tour in excess of days shown in block 11, this order need not be extended unless this order exceeds -- days.	23. FILE CREDIT VOUCHER AND STATEMENT OF TOUR OF DUTY WHICH IS MAILED AFTER TOUR COMPLETION. Travel days will not exceed OPM authorized travel time. Per diem is based on the availability of government dormitory and mess except the base attractor will be STATION COM QRTS MUST BE USED WHEN AVAILABLE. Turn in all personal items such as gifts, money, tickets, etc. by the end of the tour.	24. MAN-DAY TO COST COB N/A	25. MAN-DAY TO COST COB N/A				
26. REMARKS (AMU-270AM) COURSE: F16A/C001CM; TLM: S10T100211; CLASS: 910CA; CLASS ST DT: 3 APR 91; CLASS GRAD DT: 3 JUL 91; UNIT OF ASGN: 184 TFG, MCCONNELL AFB KS 67211; REPORT TO SCHOOL SECY, 184 TFG, BLDG 48, MCCONNELL AFB, MDT 0800 CLASS START DATE. ALL RECORDS, FLT, MEDICAL, CLEARANCES AND ORDERS MUST BE UP-TO-DATE AND CORRECT OR STUDENT WILL BE SENT HOME. ALL FLIGHT GEAR AND LINE BADGE REQUIRED. POC AUTHORIZED. PAY AND ALLOWANCE FUND CITE: 5713700 501 6272 P72B.07/.16/.18/.20/.22. Variations in itinerary authorized. TR cost N/A. Individual must pay surcharge at government messing facilities. Report to CBPO/OPMU prior to departure. Traveler not eligible for, or has applied for but not received a government contractor-issued travel card. Limit the travel advance a payment to 80 per cent of authorized and allowable out-of-pocket expenses. You should be prepared to defray quarters and transportation expenses. You must comply with AFR 35-10 and AFR 35-11. You should have full complement of uniforms. If course is extended or curtailed notify the Training Office, DSN585-3172.	U-102529.061						
27. TRAVEL 270.00	28. PER DIEM F000052 F001480	29. OTHER F000052 F001485	30. TOTAL \$170.00				
31. PAY AND ALLOWANCE 5713700 501 6272 P72B.02 580100	91TA0041C03 0462						
TRAVEL AND PER DIEM 5713700 501 6254 M11300 P726.13 P726.14 668400	CERTIFYING OFFICIAL 						
32. APPROVING OFFICIAL (TYPED Name, Grade, AUTOGEN) DON R. BEMSKI MSGT	33. SIGNATURE A signed letter requesting the issuance of this order is on file with the orders authenticating official.	34. DATE 26 FEB 91					
35. DEPARTMENT OF THE AIR FORCE (Indicate classification & location of Headquarters) HQ 924 TACTICAL FIGHTER GROUP (AFRES) BERGSTROM AFB, TEXAS 78743-5000	36. RECEIVE ORDER NO. 0-02136	37. DATE 26 FEB 91					
38. DISTRIBUTION 10-Indiv: 1-Unit/ACB/OPMAG/OPMPT/IM 67 CPTS/ACFPT	39. SIGNATURE ELEMENT OF AUTHENTICATING OFFICIAL GREGORY C TRAPUZZANO, SMSGT, USAF (AF) Ass't Chief of Information Management 						
40. STATEMENT OF TOUR OF DUTY							
41. LOCATION 1. DEPART	42. HOUR(MIN) 1. DEPART	43. DAY 1. DEPART	44. MONTH 1. DEPART	45. LOCATION 2. ARRIVE	46. HOUR(MIN) 2. ARRIVE	47. DAY 2. ARRIVE	48. MONTH 2. ARRIVE
49. THE FOLLOWING STATEMENT APPLIES TO PERSONNEL WITH MILITARY SPouses.				50. THE FOLLOWING STATEMENT APPLIES TO ALL PERSONNEL			
My spouse <input type="checkbox"/> (was) <input type="checkbox"/> (was not) in Active Duty status during this tour.				I <input type="checkbox"/> (did) <input type="checkbox"/> (did not) occupy Civil Quarters (Includes Concurrent Civil)			
51. I have applied for basic per diem allowance from Fed Civil Govt establishment.				52. DATE			
53. I certify that I have contributed to the costs of this tour. I hereby claim any expenses due me. The expenses of this tour are <input type="checkbox"/> my and <input type="checkbox"/> spouse's. Payment of credit has not been received. If credit was received under the terms of my previous tour, it was <input type="checkbox"/> my spouse's and <input type="checkbox"/> my.				54. MEMBER SIGNATURE			
55. MEMBER SIGNATURE				56. SIGNATURE			
57. CERTIFICATION				58. SIGNATURE			
59. MEMBER SIGNATURE				60. MEMBER SIGNATURE			
61. DATE				62. DATE			

EXHIBIT

Heeson

FROM: DPMPT
SUBJECT: NOTIFICATION OF TRAINING QUOTA
TO: 704 TFS/CC

12 FEB 91

CAPT CHARLES D. HUSTON attend F16A/C001CM School, 2 APR - 3 JUL 91, at MCCONNELL AFB KS.

Individual, Supervisor, and Commander should read and sign the attached RIP indicating acceptance or declination and return it to the 924 DPMPT NLT 2 MAR 91.

Individual is scheduled to cut-process c/a 2 MAR 91 UTA and must call Ext 3172 to verify date and time. It is the individual's responsibility to make billeting reservations and travel arrangements.

Individual must be five (5) pounds UNDER his/her Maximum Allowable Weight (MAW) and meet all other requirements of AFR 35-11 and AFR 38-10 to cut-process.

Individual must have at least one (1) year retainability upon graduation for courses 15 days or less. Courses OVER 15 days require individual to have at least two (2) years retainability upon graduation IAW AFR 30-5, chapter 11-3c. Individual can extend/reenlist to meet this requirement.

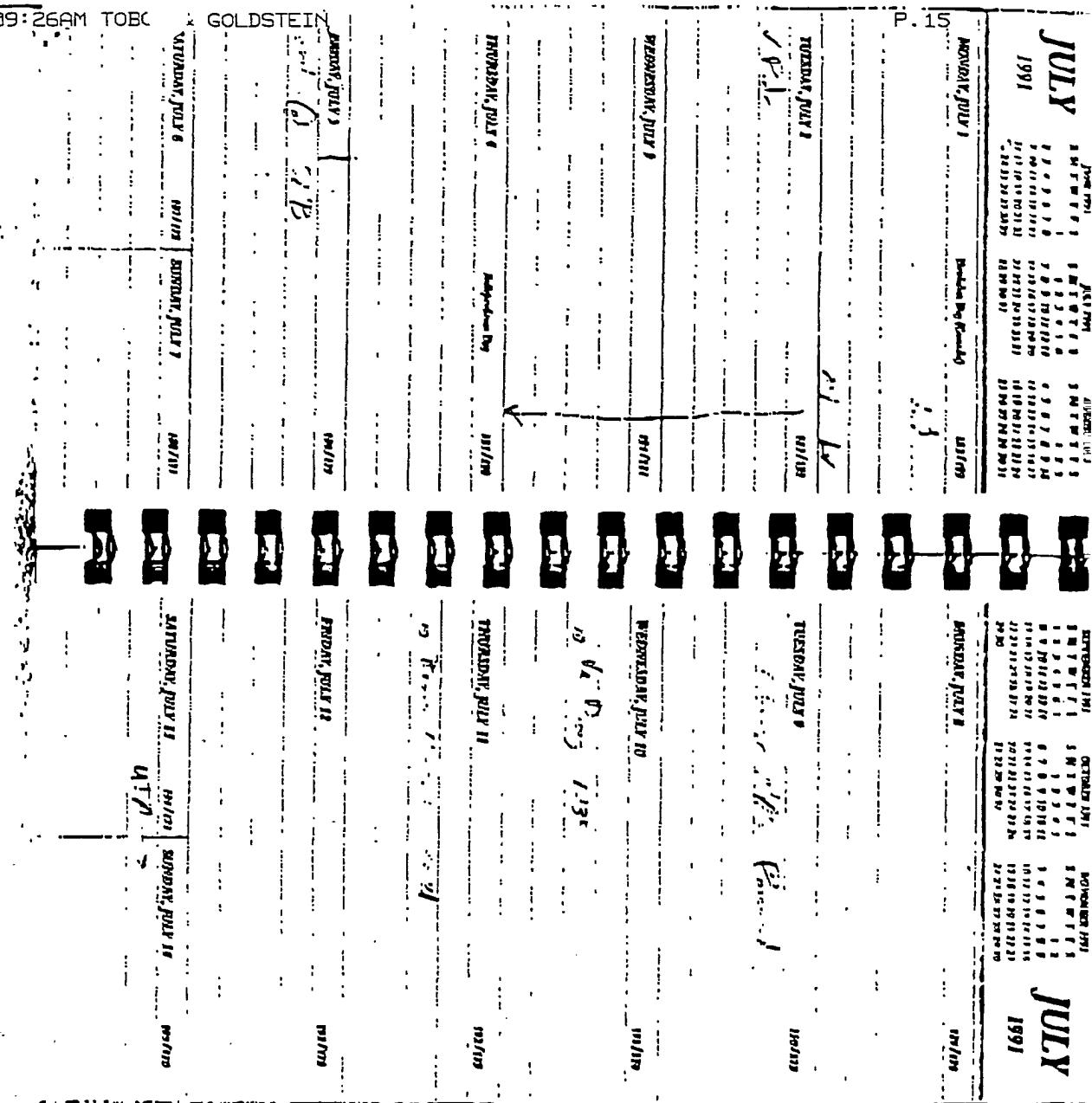
POC Irene Wolf, Ext 3172.

Don R. Benski
DON R. BENSKI, MSgt, USAFR
Chief, Reserve Education and Training

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School Rip

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EXHIBIT C



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FRIDAY, SEPTEMBER 26

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SATURDAY, SEPTEMBER 27

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TUESDAY, SEPTEMBER 30

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MONDAY, SEPTEMBER 21

MURKIN

MONDAY, SEPTEMBER 21

MURKIN

Eduardo Velasquez

SSC '91

MURKIN

leave for Paris 3:30

TUESDAY, SEPTEMBER 22

MURKIN

Rpt. C.L. 10/10/91

Paris 4:45

AS TO Judd arrived

MURKIN

Wednesday, September 23

MONDAY, OCTOBER 1

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THURSDAY, OCTOBER 24

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FRIDAY, NOVEMBER 1

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SUNDAY, NOVEMBER 3

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MONDAY, NOVEMBER 4

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TUESDAY, NOVEMBER 5

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EXHIBIT D

DATE	PILOT	START TACH	END TACH	TOTAL TRIP TIME	DESTINATION/PURPOSE	Describe fully any electronic malfunctions.		
						Time	Alt	Mer
7/28	Chad	504.98	507.68	2.70	Home Pn & Test on Kuiper b/w Da Note: 7/28/88 our port			With V-100 checked engine V Logs
7/3	Chad	504.68	507.48	3.81	IAB → AUS			
7/4	Eric	503.8	507.08	3.27	AUS-LCL (Breakdown)			
7/5	Eric	503.08	506.28	3.2	AUS-LCL-AUS-LCL			
7/6	Eric	500.28	500.4	29.71	AUS-ER-SDM-MIO-AUS			
7/7	Eric (surveillance)	501.15	506.33	1.14	-SDM-ER-AUS-JC-AUS			
7/21	ERIC	501.33	507.7	6.67	AUS-PDK			
7/24	ERIC	504.7	504.6	7.11	PDK-JAN-AUS			
7/30	ERIC	501.6	501.2	1.16				
8/6	Chad	505.12	505.54	33	T & G,			
8/7	Chad	505.54	505.96	.42	Off Change @ SOTHS			

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P. 30 P. 03

DATE	PILOT	START TACH	END TACH	TOTAL TRIP TIME	DESTINATION/PURPOSE
11/3	Eric	\$148.83	\$152.70	3.57	AUS-555-SAT-AUS
11/8	Chad	\$152.22	\$152.88	.66	BSM/STK w/ Eric
11/10	Eric	\$152.88	\$158.13	2.25	
11/14	Eric	\$156.13	\$162.12	1.75	
11/15	Chad	\$157.00	\$158.42	1.42	
11/17	Chad	\$168.42	\$159.99	1.56	
11/19	Eric	\$157.58	\$160.73	.15	To SC1 for annual
11/21	Eric	\$160.73	\$161.35	.62	Production flying
11/22	Eric	\$162.0	\$162.1	0.9	Buckfrom SC1
11/23	Eric	\$162.5	\$166.5	4.0	
11/24	Eric	\$165	\$165.5	0.07	AUS-DAL-AUS
11/29	Chad	\$167.57	\$171.02	1.05	LCL

Describe fully any electronic malfunctions.					
DMC reads > 80% bus!	11/8/98				
Landing light map	11/8/98				
ETI alarm gone	11/8/98				
Charged ETI battery. Now due 11/11					
VR check around 01 CL					
0100: VR 1 20° VR 2 0°					
11/24/98					
WS3 crosscheck in flight 11/25/98					
0-1° error					
11/26 Remained at G for service					



PATENT

THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Charles D. Huston

Darryl J. Cornish

Serial No.: 08/366,994

Filed: December 30, 1994

For: METHOD AND APPARATUS
FOR MESSAGE DISPLAY
ON A GOLF COURSE

CERTIFICATE OF MAILING
37 C.F.R. § 1.8

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class Mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C. 20231, on the date below:

10/16/97 Brian W. Peterman
Date Brian W. Peterman

**DECLARATION OF RICK HORNE
UNDER 37 C.F.R. § 1.132**

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

1. I have been employed by ProShot Golf, Inc. ("ProShot") for about one year, and my current position is Vice-President of Operations. My responsibilities include hardware engineering for Global Positioning System (GPS) based golf distance measuring systems developed by ProShot.

2. ProShot is currently the exclusive licensee under U.S. Patent No. 5,364,093 entitled "Golf Distance Measuring System and Method," which issued to Charles D. Huston and

Darryl J. Cornish, which was filed December 10, 1991 (the "093 patent"), and from which U.S. Application Serial No. 08/366,994 claims priority.

3. In December 1991 when the '093 patent was filed, I was designing Global Positioning System (GPS)-based systems for Trimble Navigation of Sunnyvale, California ("Trimble").

4. In the six years that I was employed by Trimble prior to my employment by ProShot, I worked as a design engineer designing aviation navigation systems using GPS technology and as a program manager for the design and development of a differential aircraft landing system using differential GPS technology.

5. I have reviewed (a) U.S. Patent No. 5,270,936 to Fukushima, et al. entitled "Simplified Navigation Apparatus" ("Fukushima"), and (b) U.S. Patent No. 5,056,106 to Wang, et al entitled "Golf Course Ranging and Direction-Finding System Using Spread-Spectrum Radiolocation Techniques ("Wang").

6. I have also reviewed the present U.S. Application Serial No. 08/366,994.

7. I have been asked to consider the Office Action dated April 18, 1997, and in particular the following statements, which were made by the patent examiner in that Action with respect to U.S. Application Serial No. 08/366,994:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Wang et al by substituting GPS satellites for the reference transmitters in view of Fukushima et al who teach a similar receiver/display for providing distance and direction from a current position to a target position using GPS satellites as reference transmitters, which are well-known to transmit pseudo-random code modulated signals for ranging purposes, and thereby reduce cost by eliminating the need to install antenna sites since the satellites' signals are available globally and to all.

8. I believe that these statements are not accurate based on my knowledge of GPS systems and differential GPS systems, which were known in December 1991 when the '093 patent was filed, and based on my review of Wang, Fukushima, and U.S. Application Serial No. 08/366,994.

9. Wang is limited to a golf course ranging system that uses multiple ground-based reference transmitters located on the golf course to provide position information to a hand-held unit. A master data transmitter transmits reference coordinates for each reference transmitter and transmits reference coordinates for geographic features, including each golf hole, to reference transmitters. The reference transmitters transmit this information to hand-held unit units. The signals transmitted by the reference transmitters are centered on a carrier frequency and are modulated with pseudo-noise (PN) codes. Each reference transmitter uses a unique PN code. The hand-held unit receives and de-modulates the signals from the reference transmitters. To determine distance to a particular hole, the hand-held unit uses the coordinates of four selected transmitters for any given hole, the coordinates of the hole, known coordinates for a fixed reference point for each hole, and arrival time measurements from each transmitter.

10. The spread spectrum code modulation communication technique used in Wang was known long before December 1991 and was simply one available technique for multiple access communications.

11. GPS satellites use spread spectrum code modulated signals for multiple access communications. GPS satellites transmit a pair of L-band carrier signals including an L1 signal having a carrier frequency of 1575.42 MHz and an L2 signal having a frequency of 1227.6 MHz. These two carrier signals are bi-phase modulated by pseudo-random noise (PRN) codes to facilitate multiple access. Each GPS satellite uses a different PRN code so that signals

transmitted by a particular satellite can be selected by generating and matching the corresponding PRN code. Time measurements are determined by measuring the phase shift required to match the PRN code.

12. The structure of GPS transmissions and the use of GPS as a position-fixing system were known long before December 1991 and were also well-known as of August 1990 when Wang was filed with the U.S. Patent Office.

13. Fukushima is limited to a navigation system that uses a GPS receiver to determine the position of a vehicle and that then uses stored geographical data to determine distance and direction data to predetermined or user-selected key points on a road map.

14. In December 1991, as represented by Wang and Fukushima, GPS-based positioning systems, ground-based positioning systems, and direct sequence spread spectrum code modulated communication protocols were all known.

15. What is lacking from Wang and Fukushima is anything that would have taught, suggested, or motivated me or one of ordinary skill in the art in December 1991 to modify the golf course ranging system of Wang by adapting the GPS-based vehicle positioning system of Fukushima to become a GPS-based or a differential GPS-based golf distance determining method and system as described and claimed in the present U.S. Application Serial No. 08/366,994.

16. Contrary to the examiner's assertion, the use of spread spectrum code modulated signals in Wang does not suggest that a GPS-based system, such as the system in Fukushima, could be successfully substituted for the ground-based system of Wang. Spread spectrum code modulated signals were well-known in December 1991 and were simply one available technique for multiple access communications. The use of spread spectrum code modulated signals in Wang,

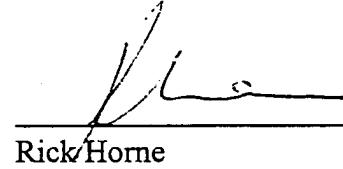
therefore, suggests only a multiple access system and would not motive me or one of skill in the art to substitute a GPS-based system for the ground-based system of Wang.

17. The use of spread spectrum code modulation in transmitting signals by both GPS satellites and the reference transmitters in Wang indicates that these systems are multiple access systems, not that these systems are equivalent and obvious to substitute one for the other. There is nothing about the spread spectrum signals in Wang or the GPS-based signals in Fukushima that would motivate me or one of skill in the art to consider substituting a GPS-based system for the ground-based system in Wang and to believe such a substitution would be successful.

18. Contrary to the examiner's assertion and to the best of my knowledge, the cost of a GPS-based system in December 1991 would not have motivated me or one of skill in the art to substitute a GPS-based system for the ground-based system in Wang. A GPS-based system would not have been significantly less expensive than the ground-based system of Wang, and would likely have been more expensive, particularly for a differential GPS-based system, which would need error correction hardware in addition to a GPS receiver for each user of the system. Furthermore, in December 1991, only a limited number of satellites were available in the GPS constellation resulting in very limited coverage time during any given day in which enough satellites would be available so that position information could be determined.

19. That cost was not a clear motivation is also supported by the fact that GPS technology and its application in position-fixing systems were both well-known as of August 1990 when Wang was filed with the U.S. Patent Office, and Wang does not mention GPS as an alternative position-fixing system or GPS satellites as a alternative source of position information.

20. I declare that all statements made herein of my own knowledge are true, and that all statements of my own belief are believed to be true, and further that these statements were made with the knowledge that willful false statements are punishable by fine or imprisonment, or both, under § 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this patent, and any reexamination certificate issuing thereon.



Rick Horne

9/4/97

Date

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

MAILED

Paper No. 19

JUL 31 2001 UNITED STATES PATENT AND TRADEMARK OFFICE

PAT & TM OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHARLES D. HUSTON and DARRYL J. CORNISH

Appeal No. 2000-0947
Application No. 08/926,293

ON BRIEF

Before ABRAMS, STAAB, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1, 5 to 18 and 21 to 26. Claim 27 has been allowed. Claims 3 and 4 have been objected to as depending from a non-allowed claim. Claim 28 has been withdrawn from consideration under 37 CFR § 1.142(b) as being drawn to a nonelected invention. Claims 2, 19 and 20 have been canceled.

We AFFIRM.

THOMPSON & KNIGHT

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AUSTIN, TEXAS

BACKGROUND

The appellants' invention relates to a method and apparatus for displaying advertising, promotion, and other types of messages on a screen used by a golfer on a golf course (specification, p. 1). A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Wang et al. (Wang)	5,056,106	Oct. 8, 1991
Bonito et al. (Bonito)	5,095,430	Mar. 10, 1992
Fukushima et al. (Fukushima)	5,270,936	Dec. 14, 1993
Dudley	5,326,095	July 5, 1994
Paul	5,524,081	June 4, 1996
Dimitriadis et al. (Dimitriadis)	5,664,948	Sept. 9, 1997

Hurn, "GPS A Guide to the Next Utility," Trimble Navigation, 1989
RTCM, "RTCM Recommended Standards for Differential Navstar GPS Service," Version 2.0, January 1, 1990

The following rejections under 35 U.S.C. § 103 are before us in this appeal:

(1) Claims 1, 5 to 7, 10, 12, 13 and 16 to 18 as being unpatentable over Wang in view of Fukushima and Dudley.

(2) Claims 8, 9, 14 and 15 as being unpatentable over Wang in view of Fukushima and Dudley and further view of Bonito.

(3) Claims 11 and 21 to 26 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM.

(4) Claims 1, 5 to 7, 10, 12, 13 and 16 to 18 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis.

(5) Claims 8, 9, 14 and 15 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis and further view of Bonito.

(6) Claims 11 and 21 to 26 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis and further view of either Hurn or RTCM.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejections, we make reference to the final rejection (Paper No. 19, mailed August 20, 1998) and the answer (Paper No. 16, mailed November 8, 1999) for the examiner's complete reasoning in support of the rejections, and to the brief (Paper No. 15, filed August 19, 1999) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and

claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. As a consequence of our review, we make the determinations which follow.

Before turning to the merits of the actual rejections under 35 U.S.C. § 103 before us in this appeal, we believe it is appropriate to resolve some preliminary matters.

The first preliminary matter is to decide the effective filing date of the claimed subject matter so that we can properly determine if the claims under appeal would have been obvious **at the time the invention was made** to a person having ordinary skill in the art. The appellants argue throughout the brief (pp. 12-29) that the current application has a priority date of December 10, 1991 and that as of that date it would not have been obvious at the time the invention was made to a person having ordinary skill in the art to have combined the applied prior (especially Wang and Fukushima) to arrive at the claimed subject matter. The examiner determined (answer, p. 11) that the claimed subject matter has a filing date of December 30, 1994 since there is no

support for the claimed subject matter in the earlier-filed, related parent applications.

We agree with the examiner that the claimed subject matter under appeal is only entitled to the filing date of the instant application (i.e., December 30, 1994). While the appellants have claimed benefit of two earlier-filed applications (i.e., Application No. 08/313,718 filed September 22, 1994 and Application No. 07/804,368 filed December 10, 1991), the appellants are not entitled to the benefit of those earlier-filed applications under 35 U.S.C. § 120 since those earlier-filed applications do not disclose the currently claimed subject matter in the manner provided by the first paragraph of 35 U.S.C. § 112. Specifically, those earlier-filed applications do not disclose displaying an advertising message to a golfer as set forth in the claims under appeal.

The other preliminary matter is to decide whether or not Fukushima and Dimitriadiis are non-analogous art to the claimed subject matter. The test for non-analogous art is first whether the art is within the field of the inventor's endeavor and, if not, whether it is reasonably pertinent to the problem with which the inventor was involved. In re Wood, 599 F.2d 1032, 1036, 202

USPQ 171, 174 (CCPA 1979). A reference is reasonably pertinent if, even though it may be in a different field of endeavor, it logically would have commended itself to an inventor's attention in considering his problem because of the matter with which it deals. In re Clay, 966 F.2d 656, 659, 23 USPQ2d 1058, 1061 (Fed. Cir. 1992). In the present instance, we are informed by the appellants' originally filed specification that the invention is particularly directed to displaying advertising messages to golfers based on the current position of the golfer as determined by a global positioning satellite system (GPS). Fukushima teaches using GPS to locate the current position of a vehicle and thus falls at least into the latter category of the Wood test, and logically would have commended itself to an artisan's attention in considering the appellants' problem. Dimitriadis teaches using GPS to locate the current position of a vehicle to provide location specific advertising information and thus falls at least into the latter category of the Wood test, and logically would have commended itself to an artisan's attention in considering the appellants' problem. Thus, we conclude that both Fukushima and Dimitriadis are analogous art.

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a case of obviousness.

See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956

(Fed. Cir. 1993). A case of obviousness is established when the teachings of the prior art itself would appear to have suggested the claimed subject matter to one of ordinary skill in the art.

See In re Bell, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993). In considering the question of the obviousness of the claimed invention in view of the prior art relied upon, we are guided by the basic principle that the question under 35 U.S.C. § 103 is not merely what the references expressly teach but what they would have suggested to one of ordinary skill in the art at the time the invention was made. See Merck & Co., Inc. v. Biocraft Laboratories, Inc., 874 F.2d 804, 807, 10 USPQ2d 1843, 1846 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

That is, the question of obviousness cannot be approached on the basis that an artisan having ordinary skill would have known only what they read in the references, because such artisan is presumed to know something about the art apart from what the references disclose. See In re Jacoby, 309 F.2d 513, 516, 135 USPQ 317, 319 (CCPA 1962). It is not necessary that suggestion or motivation be found within the four corners of the references themselves; a conclusion of obviousness may be made from common knowledge and common sense of the person of ordinary skill in the

art without any specific hint or suggestion in a particular reference. See In re Bozek, 416 F.2d 1385, 1390, 163 USPQ 545, 549 (CCPA 1969). Further, in an obviousness assessment, skill is presumed on the part of the artisan, rather than the lack thereof. In re Sovish, 769 F.2d 738, 226 USPQ 771 (Fed. Cir. 1985). We are bound to consider the disclosure of each reference for what it fairly teaches one of ordinary skill in the art, including not only the specific teachings, but also the inferences which one of ordinary skill in the art would reasonably have been expected to draw therefrom. See In re Boe, 355 F.2d 961, 148 USPQ 507 (CCPA 1966); and In re Preda, 401 F.2d 825, 159 USPQ 342 (CCPA 1968).

With this as background, we turn to the rejections under 35 U.S.C. § 103 before us in this appeal.

Rejection (1)

We sustain the rejection of claims 1, 5 to 7, 10, 12, 13 and 16 to 18 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley.

Claim 1 reads as follows:

A method for displaying an advertising message to a golfer on a golf course using the global positioning satellite system comprising the steps of:
positioning a remote global positioning satellite receiver on the golf course;
storing a plurality of predetermined locations on the golf course;
determining a position of the remote receiver on the golf course using the global positioning satellite system; and
displaying the advertising message to the golfer on the golf course based on the position of the remote receiver relative to the predetermined locations on the golf course.

Wang's invention is directed to a method and apparatus which employs a spread-spectrum based radiolocation system, using hand-held receiver units and fixed-position reference transmitters, to determine distance and direction between a golfer and key locations on a golf course, such as the distance and direction to a particular pin. The plurality of timing reference transmitters which are located throughout the vicinity of the golf course broadcast a spread-spectrum ranging signal consisting of a radio-frequency carrier directly modulated by a periodic pseudo-noise (PN) coded or similar sequence. Each transmitter broadcasts at the same RF signal but a unique PN-coded sequence is assigned to each transmitter. Golfers are provided with the hand-held receiving unit which receives the

transmitter spread-spectrum signals and which synchronizes to the spread-spectrum signals in order to obtain range estimates to a selected set of reference transmitters. The hand-held receivers also include memory to store the coordinates of the reference transmitters and the pin positions and other reference points for each hole on the golf course, which are either pre-loaded into memory or transmitted (as modulating data) with the ranging signal. Each hand-held unit also includes a digital processor which incorporates a hyperbolic location algorithm to compute the hand-held unit position based on the estimated ranges to the selected transmitters and the reference transmitter coordinates. The distance and direction from the current position to the pin or other selected reference points is then displayed via an appropriate medium on the hand-held unit.

Fukushima teaches (column 1, lines 45-47) that an object of his invention is "to provide a simplified navigation apparatus which is small in size, low in cost and easy to use." Fukushima's simplified navigation apparatus comprises: a GPS receiver for outputting coordinate data representing the absolute current location of a vehicle; a reading means for reading from a recording medium a plurality of geographical point data groups

contained therein, each data group comprising point name data paired with coordinate data; a display means for displaying display information signals supplied thereto; a display point setting means for detecting coordinate data on a given geographical point from among the plurality of geographical point data groups and setting the coordinate data for the display target point; a reading control means for controlling the reading means so as to retrieve from the recording medium the point name data paired with the coordinate data on the display target point; a computing means for obtaining the data on the distance and direction to the display target point based on the coordinate data both on the current position and on the display target point; and a display control means for supplying the display means with the point name data, distance data and direction data on the display target point as the display information signals. Fukushima further teaches (column 6, lines 46-49) that his simplified navigation apparatus may be mounted not only on passenger cars and trucks but also on bicycles and motorcycles; it may even be carried by a person as a portable navigation apparatus.

Dudley teaches the use of a golf information system which automatically provides golfers with reference position and distance information from a number of points on a particular golf course hole. In one embodiment, radio frequency identification tags would be positioned along a golf cart path, for example, buried underneath the path, and a reading system carried by the golf cart would output an interrogation signal which would activate the tags causing the tags to output a coded signal which would be received by the reading unit, which would retrieve information about that location from memory and output it to the golfer. Dudley discloses that the system can further be used to display advertising messages and to provide golf course management features such as monitoring cart usage and speed of play. Dudley teaches (column 2, lines 33-37, and column 7, lines 14-17) that various types of information besides position and yardage could also be outputted by his system including advertising messages displayed at preselected times and that the look-up table contained in EPROM 90 and RAMs 92 and 94 for microcontroller 88 can also include advertising messages which are activated by particular tags 24.

After the scope and content of the prior art are determined, the differences between the prior art and the claims at issue are to be ascertained. Graham v. John Deere Co., 383 U.S. 1, 17-18, 148 USPQ 459, 467 (1966).

Based on our analysis and review of Wang and claim 1, it is our opinion that the differences are (1) positioning a remote global positioning satellite receiver on the golf course; (2) determining a position of the remote receiver on the golf course using a global positioning satellite system; and (3) displaying an advertising message to the golfer on the golf course based on the position of the remote receiver relative to predetermined locations on the golf course.

Next, the level of ordinary skill in the pertinent art must be resolved. Six factors are relevant to a determination of the level of ordinary skill: educational level of the inventor, type of problems encountered in the art, prior art solutions, rapidity of innovation, sophistication of technology, and educational level of active workers in the field. Environmental Designs, Ltd. v. Union Oil Co., 713 F.2d 693, 697, 218 USPQ 865, 868-69 (Fed. Cir. 1983), cert. denied, 464 U.S. 1043 (1984) and

Orthopedic Equipment Co. v. All Orthopedic Appliances, 707 F.2d 1376, 1382, 217 USPQ 1281, 1285 (Fed. Cir. 1983). However, a specific finding of a particular level of skill is not always necessary where, as here, the prior art itself reflects an appropriate level. Chore-Time Equip., Inc. v. Cumberland, 713 F.2d 774, 779 n.2, 218 USPQ 673, 676 n.2 (Fed. Cir. 1983).

With regard to the above-noted differences, the examiner reached the conclusion (final rejection, p. 5) that it would have been obvious **at the time the invention was made** (i.e., December 30, 1994) to a person having ordinary skill in the art to have modified Wang's system to utilize a global positioning satellite receiver on the golf course to determine the position of the remote receiver on the golf course using a global positioning satellite system in view of Fukushima's teachings and to display advertising messages to the golfer on the golf course based on the position of the remote receiver in view of Dudley's teachings. We agree.

The argument advanced by the appellants (brief, pp. 11-23) and the 37 CFR § 1.132 Declaration of Rick Horne (the Horne declaration), dated September 4, 1997, are unpersuasive for the

following reasons. First, the Horne declaration and the appellants' argument related thereto are directed to whether or not it would have been obvious in **December 1991** to a person having ordinary skill in the art to have combined the teachings of Wang and Fukushima in the manner set forth by the examiner in all the rejections before us in this appeal. However, since the issue in all the rejections before us in this appeal is whether or not it would have been obvious in **December 1994¹** to a person having ordinary skill in the art to have combined the teachings of Wang and Fukushima, the Horne declaration and the appellants' argument related thereto are not entitled to any weight.

Second, it is our opinion that the person of ordinary skill in the art is not a golfer, a golf professional and/or golf course manager as proffered by the appellants (brief, p. 12). In our view, the applied prior art properly reflects the appropriate level and clearly demonstrates the level to be higher than a golfer, a golf professional and/or golf course manager.

¹ See our discussion, *supra*, regarding the effective filing date of the claimed subject matter.

Third, the applied prior art does provide sufficient motivation for a person having ordinary skill in the art at the time the invention was made (i.e., December 1994) to have arrived at the claimed subject matter. In that regard, while there must be some teaching, reason, suggestion, or motivation to combine existing elements to produce the claimed device, it is not necessary that the cited references or prior art specifically suggest making the combination (see B.F. Goodrich Co. v. Aircraft Braking Systems Corp., 72 F.3d 1577, 1583, 37 USPQ2d 1314, 1319 (Fed. Cir. 1996) and In re Nilssen, 851 F.2d 1401, 1403, 7 USPQ2d 1500, 1502 (Fed. Cir. 1988)). Rather, the test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981). In our view, the combined teachings of Wang, Fukushima and Dudley would have made it obvious at the time the invention was made to a person having ordinary skill in the art to (1) replace Wang's radiolocation system to determine distance from the hand-held receiver to key locations on the golf course with a GPS receiver to determine distance from the GPS receiver to key locations on the golf course based on Fukushima's teaching that a GPS system

presents a simplified navigation apparatus which is small in size, low in cost and easy to use; and (2) display advertising messages to the golfer on the golf course based on the position of the remote receiver based on Dudley's teachings for the self-evident advantages thereof.

For the reasons set forth above, the decision of the examiner to reject claim 1 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley is affirmed.

The appellants have grouped claims 1, 5 to 7, 10, 12, 13 and 16 to 18 as standing or falling together.² Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 5 to 7, 10, 12, 13 and 16 to 18 fall with claim 1. Thus, it follows that the decision of the examiner to reject claims 5 to 7, 10, 12, 13 and 16 to 18 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley is also affirmed.

² See page 7 of the appellants' brief.

Rejection (2)

Dependent claims 8, 9, 14 and 15 have not been separately argued by the appellants. In fact, the appellants have grouped claims 8, 9, 14 and 15 as standing or falling with the claims subject to rejection (1).³ Accordingly, these claims will be treated as falling with their parent claims. See In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991); In re Nielson, 816 F.2d 1567, 1572, 2 USPQ2d 1525, 1528 (Fed. Cir. 1987); and In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978). Thus, it follows that the decision of the examiner to reject claims 8, 9, 14 and 15 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of Bonito is also affirmed.

Rejection (3)

We sustain the rejection of claims 11, 21 to 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM. We will not sustain the rejection of claim 24 under 35 U.S.C. § 103

³ See page 7 of the appellants' brief.

as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM.

Claim 21 reads as follows:

A system for displaying an advertising message to a golfer on a golf course using a global positioning satellite system comprising:

differential correction means positioned at a known location for receiving signals from the global positioning satellite system, for determining an apparent location, and for transmitting a correction based on the difference between the known location and the apparent location;

global positioning receiver means transportable for accompanying the golfer during play of golf on the golf course for receiving signals indicative of the apparent position of the receiver means on the golf course using the global positioning satellite system and including a communication link for receiving corrections from the differential correction means, the global positioning receiver means being operable for determining an accurate position on the golf course based on the apparent position and the corrections; storage means storing a plurality of predetermined accurate positions on the golf course;

means linked to said global positioning receiver means and said storage means for determining if the position of the receiver means coincides with one of the plurality of predetermined accurate positions; and

display means coupled to the global positioning receiver means for displaying the advertising message to the golfer if the position of the receiver means coincides with one of the predetermined accurate positions of the global positioning receiver means on the golf course.

The examiner determined (final rejection, p. 9) that the claimed subject matter would have been obvious at the time the

invention was made to a person having ordinary skill in the art to combine the teachings of Wang, Fukushima and Dudley as set forth in rejection (1) above and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

The appellants argument (brief, pp. 28-29) pointing out deficiencies of each applied reference on an individual basis is unpersuasive since nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. See In re Merck & Co. Inc., 800 F.2d 1091, 1097, 231 USPQ 375, 380 (Fed. Cir. 1986). In that regard, we note that the applied prior art clearly teaches the benefits (e.g., greater accuracy) of "differential GPS" over "GPS."

For the reasons set forth above, the decision of the examiner to reject claim 21 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM is affirmed.

The appellants have grouped claims 21 to 23, 25 and 26 as standing or falling together.⁴ Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 22, 23, 25 and 26 fall with claim 21. Dependent claim 11 has not been separately argued by the appellant. In fact, the appellants have grouped claim 11 as standing or falling with the claims subject to rejection (1).⁵ Accordingly, claim 11 will be treated as falling with its parent claim 1. Thus, it follows that the decision of the examiner to reject claims 11, 22, 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM is also affirmed.

Claim 24 adds to parent claim 21 the limitation "said communications link being operable for receiving an advertising message and for sending said received message to the display means for display."

The appellants argue (brief, pp. 29-30) that the limitation of claim 24 is not suggested by the applied prior art. We agree. In fact, the examiner's response (answer, p. 14) to this argument

⁴ See page 7 of the appellants' brief.

⁵ See page 7 of the appellants' brief.

is that Paul clearly shows/suggests the limitation of claim 24. However, since Paul is not applied in this ground of rejection, the examiner has failed to present a case of obviousness with respect to claim 24.

For the reasons set forth above, the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM is reversed.

Rejection (4)

We sustain the rejection of claims 1, 5 to 7, 10, 12, 13 and 16 to 18 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis.

The teachings of Fukushima and Wang have been set forth above in our discussion of rejection (1).

Paul⁶ teaches (see abstract) a golf information and management system utilizing the Global Positioning System, a

⁶ In our view, Paul is the closest piece of prior art (from the prior art before us in this appeal) to the claimed invention.

satellite based, radio navigation system where clocks signals are transmitted. This satellite system provides at least four satellites 2 "in view" at all time. A golf cart 12 or player receives the signals from the four satellites, compares the clocked signals and an on-board computer reads the clocked signals and determines the position, in three dimension, of the receivers (velocity of the receivers is also available). There is a fixed base location 8 on the golf course that also receives the satellite signals and transmits a differential correction signal, via another channel, to the golf cart or player, where the computer determines the position of the cart or player to within a yard. The computer may be pre-loaded with golf course information, such as pin position, hazard positions, etc., where the computer via a graphical display 18 communicates to the player exact distances to the pre-loaded known physical features of the golf course, and displays information needed by the player to determine his next shot, including a video presentation of a golf pro's suggestions. In addition, the cart may communicate with the base station where the base station can track each cart or player on the course. With such information, detecting slow players to allow better course management, and also allows the base station to output information to a cart to show the players

ahead so as not to hit into other groups and to send messages to carts to urge faster play to send out other type messages. Paul further teaches (column 8, lines 15-21) that the base unit performs other functions in addition to broadcasting the differential corrections in that it provides a mechanism for broadcasting messages to all carts or any specific cart. The broadcasts can include notices from the clubhouse, weather alerts, **advertising**, leader board updates, etc.

Dimitriadis' invention delivers data and information including advertising information to a receiving device. In accordance with his invention, data which can include **advertising** information is transmitted to a receiving device and then it is collected and stored within the receiving device. The receiving device intermittently presents stored information to a listener. The receiving device can provide multiple presentations of advertising information which was transmitted to the receiving device one time by radio signal. Presentation of the advertising information at the receiving device may be triggered by a variety of functions. Stored advertising information entries may be presented, for example, by reference to a time schedule, to current receiving device location, or to receiving device events

such as power-up. Because the advertising information is broadcast only one time and presented multiple times, the advertiser incurs less expense for each advertisement presentation, there being multiple advertisement presentations for one radio signal transmission. As shown in Figure 1 of Dimitriadis, a global position system (GPS) satellite 50 provides transmission 52 to determine the location of a GPS receiver carried by vehicle 10 (the GPS receiving device is incorporated into travel information device 40). Thus, travel information device 40 receives several channels of information. Voice broadcast 22 provided by radio broadcast system 20 provides a stream of analog voice information. Data broadcast 26 provides further advertising information, e.g., digital, voice or text information, to be captured by device 40. Third, the GPS transmission 52 provides current vehicle location. As shown in Figure 3 of Dimitriadis, the travel information device 40 includes a display 100 for advertisement presentation of text type data.

Based on our analysis and review of Fukushima and claim 1, it is our opinion that the differences are: (1) positioning a remote global positioning satellite receiver on a golf course;

(2) storing a plurality of predetermined locations on the golf course; (3) determining a position of the remote receiver on the golf course using the global positioning satellite system; and (4) displaying an advertising message to a golfer on the golf course based on the position of the remote receiver relative to the predetermined locations on the golf course.

With regard to the above-noted differences, the examiner reached the conclusion (final rejection, p. 10) that it would have been obvious **at the time the invention was made** (i.e., December 30, 1994) to a person having ordinary skill in the art to have utilized Fukushima's apparatus for a golfer on a golf course so that the position of the GPS receiver on the golf course would be determined using a global positioning satellite system in view of Wang's teachings and to display advertising messages at predetermined geographic locations of the GPS receiver in view of the teachings of either Paul or Dimitriadis. We agree.

The appellants presents the same argument with regard to this ground of rejection as they presented with regard to rejection (1). We find this argument unpersuasive for the

reasons expressed above in our discussion of rejection (1). Additionally, we note that the appellants belief (brief, pp. 26-27) that Paul does not suggest providing advertising messages to players on a golf course is wrong since Paul specifically teaches (column 8, lines 15-21) that the broadcasts from the base unit to a cart can include notices from the clubhouse, weather alerts, **advertising**, leader board updates, etc.

For the reasons set forth above, the decision of the examiner to reject claim 1 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis is affirmed.

The appellants have grouped claims 1, 5 to 7, 10, 12, 13 and 16 to 18 as standing or falling together.⁷ Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 5 to 7, 10, 12, 13 and 16 to 18 fall with claim 1. Thus, it follows that the decision of the examiner to reject claims 5 to 7, 10, 12, 13 and 16 to 18 under 35 U.S.C. § 103 as being unpatentable over

⁷ See page 7 of the appellants' brief.

Fukushima in view of Wang and either one of Paul or Dimitriadis is also affirmed.

Rejection (5)

Dependent claims 8, 9, 14 and 15 have not been separately argued by the appellants. In fact, the appellants have grouped claims 8, 9, 14 and 15 as standing or falling with the claims subject to rejection (4).⁸ Accordingly, these claims will be treated as falling with their parent claims. Thus, it follows that the decision of the examiner to reject claims 8, 9, 14 and 15 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and either one of Paul or Dimitriadis and further view of Bonito is also affirmed.

Rejection (6)

We sustain the rejection of claims 11, 21 to 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Dimitriadis and further view of either Hurn or RTCM. We sustain the rejection of claims 11 and 21 to 26 under

⁸ See page 7 of the appellants' brief.

35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul and further view of either Hurn or RTCM. We will not sustain the rejection of claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Dimitriadis and further view of either Hurn or RTCM.

The examiner determined (final rejection, p. 12) that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the teachings of Fukushima, Wang and either Paul or Dimitriadis as set forth in rejection (4) above and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

The appellants argument (brief, pp. 28-29) pointing out deficiencies of each applied reference on an individual basis is unpersuasive since nonobviousness cannot be established by attacking the references individually when the rejection is predicated upon a combination of prior art disclosures. See In re Merck & Co., Inc., 800 F.2d at 1097, 231 USPQ at 380. In that regard, we note that the applied prior art clearly teaches the

benefits (e.g., greater accuracy) of "differential GPS" over "GPS."

For the reasons set forth above, the decision of the examiner to reject claim 21 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul or Dimitriadis and further view of either Hurn or RTCM is affirmed.

The appellants have grouped claims 21 to 23, 25 and 26 as standing or falling together.⁹ Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 22, 23, 25 and 26 fall with claim 21. Dependent claim 11 has not been separately argued by the appellant. In fact, the appellants have grouped claim 11 as standing or falling with the claims subject to rejection (4).¹⁰ Accordingly, claim 11 will be treated as falling with its parent claim 1. Thus, it follows that the decision of the examiner to reject claims 11, 22, 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul or

⁹ See page 7 of the appellants' brief.

¹⁰ See page 7 of the appellants' brief.

benefits (e.g., greater accuracy) of "differential GPS" over "GPS."

For the reasons set forth above, the decision of the examiner to reject claim 21 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul or Dimitriadis and further view of either Hurn or RTCM is affirmed.

The appellants have grouped claims 21 to 23, 25 and 26 as standing or falling together.⁹ Thereby, in accordance with 37 CFR § 1.192(c)(7), claims 22, 23, 25 and 26 fall with claim 21. Dependent claim 11 has not been separately argued by the appellant. In fact, the appellants have grouped claim 11 as standing or falling with the claims subject to rejection (4).¹⁰ Accordingly, claim 11 will be treated as falling with its parent claim 1. Thus, it follows that the decision of the examiner to reject claims 11, 22, 23, 25 and 26 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul or

⁹ See page 7 of the appellants' brief.

¹⁰ See page 7 of the appellants' brief.

Dimitriadis and further view of either Hurn or RTCM is also affirmed.

The appellants further argue (brief, pp. 29-30) that the limitation of claim 24¹¹ is not suggested by the applied prior art. We agree with respect to the rejection including Dimitriadis but disagree with respect to the rejection including Paul. The examiner's response (answer, p. 14) to this argument is that Paul clearly shows/suggests the limitation of claim 24.¹²

Since Paul is not applied in the ground of rejection including Dimitriadis, the examiner has failed to present a case of obviousness with respect to claim 24. Accordingly, the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Dimitriadis and further view of either Hurn or RTCM is reversed.

In our view, Paul clearly teaches his communications link being operable for receiving an advertising message and for

¹¹ The limitation that claim 24 adds to parent claim 21 is set forth above in our discussion of rejection (3).

¹² The appellants did not file a reply brief to respond to this determination of the examiner.

sending the received message to the display means for display and thus the appellants argument fails to establish any error in the examiner's rejection of claim 24 based upon Fukushima in view of Wang and Paul and further view of either Hurn or RTCM.

Accordingly, the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul and further view of either Hurn or RTCM is affirmed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1, 5 to 18, 21 to 23, 25 and 26 under 35 U.S.C. § 103 is affirmed; the decision of the examiner to reject claim 24 as being unpatentable over Wang in view of Fukushima and Dudley and further view of either Hurn or RTCM is reversed; the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Dimitriadis and further view of either Hurn or RTCM is reversed; and the decision of the examiner to reject claim 24 under 35 U.S.C. § 103 as being unpatentable over Fukushima in view of Wang and Paul and further view of either Hurn or RTCM is affirmed.

Since at least one rejection of each of the appealed claims has been affirmed, the decision of the examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED



NEAL E. ABRAMS
Administrative Patent Judge



LAWRENCE J. STAAB
Administrative Patent Judge



JEFFREY V. NASE
Administrative Patent Judge

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BOARD OF PATENT
APPEALS
AND
INTERFERENCES

Appeal No. 2000-0947
Application No. 08/926,293

Page 34

CHARLES D. HUSTON
THOMPSON & KNIGHT, PC
98 SAN JACINTO BOULEVARD
SUITE 1200
AUSTIN, TX 78701

JVN/jg

United States Court of Appeals for the Federal Circuit

02-1048
(Serial no. 08/926,293)

IN RE CHARLES D. HUSTON and DARRYL J. CORNISH

Charles D. Houston, Thompson & Knight, L.L.P., of Austin, Texas, argued for appellants.

Sydney O. Johnson, Jr., Associate Solicitor, Office of the Solicitor, Patent and Trademark Office, of Arlington, Virginia, argued for appellee. With him on the brief were John M. Whealan, Solicitor; and William LaMarca, Associate Solicitor. Of counsel was Stephen Walsh, Associate Solicitor.

Appealed from: United States Patent and Trademark Office
 Board of Patent Appeals and Interferences

United States Court of Appeals for the Federal Circuit

02-1048
(Serial No. 08/926,293)

IN RE CHARLES D. HUSTON and DARRYL J. CORNISH

DECIDED: October 17, 2002

Before MAYER, Chief Judge, DYK, and PROST, Circuit Judges.

Opinion for the court filed by Circuit Judge DYK. Dissenting opinion filed by Circuit Judge PROST.

DYK, Circuit Judge.

Charles D. Huston and Darryl J. Cornish (“appellants”) appeal the decision of the United States Board of Patent Appeals and Interferences (“Board”) affirming the final rejection of claims 1, 5-18, and 21-26 of U.S. Application Serial No. 08/926,293 (“the ‘293 application”). Ex parte Huston, No. 00-0947 (Bd. Pat. App. & Int. July 31, 2001). Because the Board properly concluded that the claims are not entitled to the filing date of an earlier filed application and would have been obvious to one of ordinary skill in the art at the time of invention, we affirm.

BACKGROUND

The claimed subject matter of the ‘293 application is directed to a method and apparatus for displaying an advertising message to a golfer on a screen based on the golfer’s current position as determined by a global positioning satellite (“GPS”) system. A GPS system is a constellation of satellites that circle the earth transmitting signals that are used to determine the location of a device receiving the signal.

Huston filed two earlier applications, U.S. Application Serial No. 07/804,368 (“the ‘368

application"), on December 10, 1991, and a continuation-in-part ("CIP") of the '368 application, United States Application Serial No. 08/313,718 ("the '718 application"), on September 22, 1994. The '718 application ultimately issued as U.S. Patent No. 5,364,093 ("the '093 patent"). Appellants contend that the application at issue, the '293 application, is entitled to the benefit of the filing date of the '368 application, making the effective filing date December 10, 1991, rather than December 30, 1994. The United States Patent and Trademark Office ("PTO") contends that the '293 application should benefit only from its own December 30, 1994, filing date.

The '093 patent^[1] relates to a method and system for determining and displaying the approximate distance between a golf ball and a target on the golf course such as a golf cup or a hazard. The invention of the '093 patent utilizes a GPS receiver positioned near the golf ball to determine the position of the golf ball and, based on that position, calculates the distance to a golf cup or a hazard. The specification describes an embodiment of the invention that includes a bi-directional radio system capable of receiving error correction information and "other information." '093 patent, col. 4, ll. 63-65.

Claims 1, 5-18, and 21-26 of the '293 application are at issue on appeal. Claims 1, 21, and 24 are representative. Claim 1 provides:

1. A method for displaying an advertising message to a golfer on a golf course using the global positioning satellite system comprising the steps of:
 - positioning a remote global positioning satellite receiver on the golf course;
 - storing, a plurality of predetermined locations on the golf course;
 - determining, a position of the remote receiver on the golf course using the global positioning satellite system; and
 - displaying the advertising message to the golfer on the golf course based on the position of the remote receiver relative to the predetermined locations on the golf course.

'293 application, claim 1 (emphasis added).

Claim 21 adds the limitation of a differential correction means for determining and transmitting an error correction. The differential correction means enables the GPS system to calculate the location of the golfer more accurately. Claim 21 provides:

21. A system for displaying an advertising message to a golfer on a golf course using a global positioning satellite system comprising:
 - differential correction means positioned at a known location for receiving

signals from the global positioning, satellite system, for determining an apparent location, and for transmitting a correction based on the difference between the known location and the apparent location;

global positioning receiver means transportable for accompanying the golfer during play of golf on the golf course for receiving signals indicative of the apparent position of the receiver means on the golf course using the global positioning satellite system and including a communication link for receiving corrections from the differential correction means, the global positioning receiver means being operable for determining an accurate position on the golf course based on the apparent position and the corrections;

storage means storing a plurality of predetermined accurate positions on a golf course;

means linked to said global positioning receiver means and said storage means for determining if the position of the receiver means coincides with one of the plurality of predetermined accurate positions; and

display means coupled to the global positioning receiver means for displaying the advertising message to the golfer if the position of the receiver means coincides with one of the predetermined accurate positions of the global positioning receiver means on the golf course.

'293 application, claim 21 (emphasis added).

Claim 24, which depends from claim 21, requires a communications link to receive and transmit the advertising message: "The system of claim 21, said communications link being operable for receiving an advertising message and for sending said received message to the display means for display." '293 application, claim 24.

PROCEEDINGS BELOW

The examiner rejected claims 1, 5-18, and 21-26 as obvious under 35 U.S.C. § 103(a), relying on various combinations of eight references: U.S. Patent No. 5,056,106 to Wang et al. ("Wang"); U.S. Patent No. 5,095,430 to Bonito et al. ("Bonito"); U.S. Patent No. 5,095,430 to Fukushima et al. ("Fukushima"); U.S. Patent No. 5,326,095 to Dudley ("Dudley"); U.S. Patent No. 5,524,081 to Paul ("Paul"); U.S. Patent No. 5,664,948 to Dimitriadis et al. ("Dimitriadis"); Jeff Hurn, "GPS: A Guide to the Next Utility," Trimble Navigation, 1989 ("Hurn"); and "RTCM Recommended Standards for Differential Navistar GPS Service," Version 2.0, Jan. 1, 1990 ("RTCM").

An initial question was whether the Paul and Dimitriadis patents should be considered as prior art under 35 U.S.C. § 102(e) against the '293 application.^[2] The application that ultimately issued as Paul was filed May 2, 1994, and the application that ultimately issued as

Dimitriadis was filed October 11, 1994. Thus, if the '293 application were entitled to a filing date of December 10, 1991, the filing date of the '368 application, then Paul and Dimitriadis would not be prior art under section 102(e). The examiner determined that appellants were not entitled to the benefit of the filing date of the '368 application because the '368 application did not disclose the currently claimed subject matter in the manner provided by the first paragraph of 35 U.S.C. § 112, as required by 35 U.S.C. § 120.^[3] Specifically, the examiner determined that the '368 application did not disclose the display of an advertising message to a golfer as set forth in the claims on appeal. The examiner accordingly considered the Paul and Dimitriadis patents to be prior art.

A brief description of the eight prior art references relied on by the examiner follows. Wang is directed to a method and apparatus that employs a spread-spectrum based radiolocation system. Wang, col. 1, ll. 13-14. The Wang system uses hand-held receiver units and fixed-position reference transmitters to determine distance and direction between a golfer and key locations on a golf course, for example, the distance and direction to a particular pin. Id., col. 2, ll. 12-35. Fukushima teaches the use of a GPS system to locate the current position of a vehicle and “provide[s] a simplified navigation apparatus which is small in size, low in cost and easy to use.” Fukushima, col. 1, ll. 46-47. Dudley discloses a receiver positioned on a golf course used with tags positioned underground at predetermined locations on the golf course and displays advertising messages to a golfer (having the receiver) based on the golfer’s position relative to the predetermined location of the tags. Dudley, col. 2, ll. 4-41. Bonito discloses marking a computer with a lighting pen to determine the distance between a golfer’s location and a selected point. Bonito, col. 7, ll. 60-65. Paul discloses a golf information and management system that uses GPS to determine the position of a GPS receiver on a golf course, Paul, col. 5, ll. 41-43, 61-63, where a map of the course is stored at the base station, id., col. 6, ll. 61-62, and displays advertising messages to a golfer, id., col. 8, ll. 18-20. Dimitriadis teaches using GPS to locate the current position of a vehicle to provide location-specific advertising information, Dimitriadis, col. 2, ll. 61-67, wherein the GPS system determines the location of a GPS receiver, id., col. 5, ll. 31-34, and where advertising

messages may be presented when the vehicle passes a predetermined location such as a geographic landmark, *id.*, col. 3, ll. 19-28, col. 4, ll. 32-36. The Hurn article discloses using "differential correction" to calculate errors occurring during the transmission of a satellite signal and teaches that, given its ability to determine errors, differential GPS achieves more accurate measurements than conventional GPS. The Radio Technical Commission for Maritime Services ("RTCM") reference also discloses that differential GPS is a technique that significantly improves the accuracy of GPS.

The examiner made the following rejections:

- (1) claims 1, 5-7, 10, 12, 13, and 16-18 as being unpatentable under 35 U.S.C. § 103(a) over Wang in view of Fukushima and Dudley;
- (2) claims 8, 9, 14, and 15 as being unpatentable under 35 U.S.C. § 103(a) over Wang in view of Fukushima and Dudley and in further view of Bonito;
- (3) claims 11 and 21-26 as being unpatentable under 35 U.S.C. § 103(a) over Wang in view of Fukushima and Dudley and in further view of either Hurn or RTCM;
- (4) claims 1, 5-7, 10, 12, 13, and 16-18 as being unpatentable under 35 U.S.C. § 103(a) over Fukushima in view of Wang and either one of Paul or Dimitriadis;
- (5) claims 8, 9, 14, and 15 as being unpatentable under 35 U.S.C. § 103(a) over Fukushima in view of Wang and either one of Paul or Dimitriadis and in further view of Bonito, and
- (6) claims 11 and 21-26 as being unpatentable under 35 U.S.C. § 103(a) over Fukushima in view of Wang and either one of Paul or Dimitriadis and in further view of either Hurn or RTCM.

To rebut the examiner's obviousness findings, appellants filed a declaration under 37 C.F.R. § 1.132 from Rick Horne, Vice President of Operations of ProShot Golf, Inc., the exclusive licensee of Huston's '093 patent. Horne stated that, as of December 1991, it would not have been obvious to combine the Wang and Fukushima patents:

What is lacking from Wang and Fukushima is anything that would have taught, suggested, or motivated me or one of ordinary skill in the art in December 1991 to modify the golf course ranging system of Wang by adapting the GPS-vehicle positioning system of Fukushima to become a GPS-based or a differential GPS-based golf distance determining method and system as described and claimed in the present [application].

Horne Decl. ¶ 15 (emphasis added).

In an office action dated November 26, 1997, the examiner considered the Horne declaration and found it unpersuasive: "The declaration of Rick Horne . . . is insufficient to

overcome the rejection of claims 1, 3-18 and 21-26 based upon Wang et al. in view of Fukushima et al. and Dudley."

The examiner issued final rejections of claims 1, 3-18, and 21-26 in a Final Office Action dated August 20, 1998.

Huston appealed to the Board. The Board held that all claims had been properly rejected "[s]ince at least one rejection of each of the appealed claims has been affirmed." Huston, slip op. at 33.

First, the Board agreed with the examiner that Huston's application was not entitled to the December 10, 1991, filing date of the '368 application under 35 U.S.C. § 120 because it found that the '368 application did not disclose the currently claimed element of "displaying an advertising message" to a golfer in a manner consistent with the first paragraph of section 112:

We agree with the examiner that the claimed subject matter under appeal is only entitled to the filing date of the instant application (i.e., December 30, 1994). While the appellants have claimed the benefit of two earlier-filed applications . . . the appellants are not entitled to the benefit of those earlier-filed applications under 35 U.S.C. § 120 since those earlier-filed applications do not disclose the currently claimed subject matter in the manner provided by the first paragraph of 35 U.S.C. § 112. Specifically, those earlier-filed applications do not disclose displaying an advertising message to a golfer as set forth in the claims under appeal.

Id., slip op. at 5 (emphasis added).

The Board then considered the Horne declaration and sua sponte found that it was "not entitled to any weight," because the declaration is

directed to whether or not it would have been obvious in December 1991 to a person having ordinary skill in the art to have combined the teachings of Wang and Fukushima in the manner set forth by the examiner in all the rejections before us in this appeal. However, since the issue in all the rejections before us in this appeal is whether or not it would have been obvious in December 1994 to a person having ordinary skill in the art to have combined the teachings of Wang and Fukushima, the Horne declaration and the appellants' argument related thereto are not entitled to any weight.

Huston, slip op. at 15.

The Board determined the level of ordinary skill in the pertinent art. The Board found that "the person of ordinary skill in the art is not a golfer, a golf professional and/or golf course

manager In our view, the applied prior art properly reflects the appropriate level and clearly demonstrates the level to be higher than a golfer, a golf professional and/or golf course manager." Id.

Turning to the merits of the obviousness rejection of claim 1, the Board analyzed the prior art and determined that

the combined teachings of Wang, Fukushima, and Dudley would have made it obvious at the time the invention was made to a person having ordinary skill in the art to (1) replace Wang's radiolocation system to determine distance from the hand-held receiver to key locations on the golf course with a GPS receiver to determine distance from the GPS receiver to key locations on the golf course based on Fukushima's teaching that a GPS system presents a simplified navigation apparatus which is small in size, low in cost and easy to use; and (2) display advertising messages to the golfer on the golf course based on the position of the remote receiver based on Dudley's teachings for the self-evident advantages thereof.

Id. at 16-17 (emphases added). Thus, the Board identified two key elements of claim 1: (1) the use of a GPS system on a golf course to determine the position of a golfer; and (2) the use of such system to transmit location-specific advertising messages to a golfer. The Board found the first element, the use of GPS on a golf course, obvious in light of the combination of Wang and Fukushima. Later in its opinion, the Board separately found that the use of GPS on a golf course was fully disclosed by a single prior art reference, the Paul patent. Indeed, the Board noted that "Paul is the closest piece of prior art (from the prior art before us on appeal) to the claimed invention." Id. at 22 n.6. The Board found the second element, positional advertising, obvious in light of Dudley's teaching of positional advertising on a golf course using a radio frequency system (rather than GPS).

The Board accordingly affirmed the rejection of claims 1, 5-7, 10, 12, 13, and 16-18 as unpatentable over Wang in view of Fukushima and Dudley. Huston, slip op. at 17. The Board treated dependent claims 8, 9, 14, and 15 as standing or falling with their parent claims and affirmed the rejection of those claims as well.^[4] Id. at 18.

The Board also sustained the rejection of claims 11, 21-23, 25, and 26 as unpatentable over Wang in view of Fukushima and Dudley in further view of either Hurn or RTCM:

The examiner determined . . . that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in

the art to combine the teachings of Wang, Fukushima and Dudley as set forth in rejection (1) above and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

Id. at 19-20. The Board did not sustain the rejection of claim 24 over Wang in view of Fukushima and Dudley in further view of either Hurn or RTCM (though, as noted below, it rejected that claim on alternative grounds). Id. at 18-19.

The Board then turned to the examiner's alternative rejection of the claims. The Board sustained the examiner's rejection of claims 1, 5-7, 10, 12, 13, and 16-18 as being unpatentable under 35 U.S.C. § 103(a) over Fukushima in view of Wang and either Paul or Dimitriadis. As noted, the Board found that the application was not entitled to the benefit of the earlier filing date, and, therefore, Paul and Dimitriadis, which were both filed between 1991 and 1994, were properly considered as prior art under 35 U.S.C. § 102(e). The Board sustained the rejection:

[T]he examiner reached the conclusion . . . that it would have been obvious at the time the invention was made (i.e., December 30, 1994) to a person having ordinary skill in the art to have utilized Fukushima's apparatus for a golfer on a golf course so that the position of the GPS receiver on the golf course would be determined using a global positioning satellite system in view of Wang's teachings and to display advertising messages at predetermined geographic locations of the GPS receiver in view of the teachings of either Paul or Dimitriadis. We agree.

Huston, slip op. at 26. The Board noted that "Paul specifically teaches . . . that the broadcasts from the base unit to a cart can include notices from the clubhouse, weather alerts, advertising, leader board updates, etc." Id. at 27. The Board further found that claims 1, 5-7, 10, 12, 13, and 16-18 stand or fall together, id., and that dependent claims 8, 9, 14, and 15 stand or fall with their parent claims, id. at 28, and accordingly sustained the rejection as to these claims.

The Board then sustained the examiner's rejection of claims 11 and 21-26 as unpatentable over Fukushima in view of Wang and Paul and in further view of either Hurn or RTCM:

The examiner determined . . . that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the teachings of Fukushima, Wang and either Paul or Dimitriadis . . . and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

Huston, slip op. at 29. The Board noted that "the applied prior art clearly teaches the benefits (e.g., greater accuracy) of 'differential GPS' over 'GPS.'" Id. at 29-30.

The Board sustained the rejection of claim 24 as being unpatentable over Fukushima in view of Wang and Paul and in further view of either Hurn or RTCM:

In our view, Paul clearly teaches his communication link being operable for receiving an advertising message and for sending the received message to the display means for display and thus the appellants' argument fails to establish any error in the examiner's rejection of claim 24 based upon Fukushima in view of Wang and Paul and further view of either Hurn or RTCM.

Huston, slip op. at 31-32.

The Board concluded that "[s]ince at least one rejection of each of the appealed claims has been affirmed, the decision of the examiner is affirmed." Id. at 33.

Huston timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

STANDARD OF REVIEW

"The ultimate determination of whether an invention would have been obvious under 35 U.S.C. § 103(a) is a legal conclusion based on underlying findings of fact." In re Kotzab, 217 F.3d 1365, 1369, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000). We review the Board's ultimate conclusion of obviousness without deference, and we review the Board's underlying factual determinations for substantial evidence. In re Gartside, 203 F.3d 1305, 1316, 53 USPQ2d 1769, 1776 (Fed. Cir. 2000). The scope and content of the prior art are reviewed for substantial evidence. Id.

DISCUSSION

1

The first question is whether substantial evidence supports the Board's determination that the proper date for the obviousness analysis is December 1994, rather than December 1991, the filing date of the '368 application. We hold that it does.

Appellants contend that they are entitled to the benefit of the December 10, 1991, filing date of the '368 application. In order "[t]o gain the benefit of the filing date of an earlier application under 35 U.S.C. § 120, [a later-filed application] must comply with the written

description requirement of 35 U.S.C. § 112." Lockwood v. Am. Airlines Inc., 107 F.3d 1565, 1571, 41 USPQ2d 1961, 1965-66 (Fed. Cir. 1997). The examiner concluded that "[t]he instant application has a filing date of 12/30/94 with respect to the display of advertising messages based on position since there is no support for such in the earlier-filed, related parent files." The Board agreed:

We agree with the examiner that the claimed subject matter under appeal is only entitled to the filing date of the instant application (i.e., December 30, 1994). While the appellants have claimed the benefit of two earlier-filed applications . . . the appellants are not entitled to the benefit of those earlier-filed applications under 35 U.S.C. § 120 since those earlier-filed applications do not disclose the currently claimed subject matter in the manner provided by the first paragraph of 35 U.S.C. § 112. Specifically, those earlier-filed applications do not disclose displaying an advertising message to a golfer as set forth in the claims under appeal.

Huston, slip op. at 5 (emphasis added).

We agree with the examiner and with the Board. The '368 application did not disclose the location-specific transmission of advertising messages to a golfer using GPS. The specification states that the invention of the '368 application relates to "a method and apparatus which could accurately and quickly determine the position of a ball and the distance between the ball and features on the hole being played, such as the golf cup on the green, the preceding cart, or a hazard . . ." The disclosure further describes the purpose of the invention as "determining the approximate distance between a golf ball and a target on the golf course such as the golf cup. In particular, the method and apparatus use a global positioning satellite receiver positioned near the golf ball to determine the approximate location of the golf ball." The specification further describes "option buttons" that

allow the player to access "tips" (e.g., caddie hints), "drinks," and "more" respectively. . . . The "more" menu allows the player to access other options, such as a scorecard where the player can enter scores for the round for each player or food service. If desired, the scores can be transmitted over the radio network and downloaded to base station 12 for handicap input and is particular [ly] useful during tournaments. The "drink" button allows the player to order drinks . . .

The specification continues:

the packet radio system 20 is conventional, and includes modem 34, radio interface 36, and radio 38 (including an antenna, not shown). The radio system

20 is bi-directional in that it can receive error correction and other information as well as transmit present position back to the base station 12."

'093 patent, col. 4, ll. 60-65 (emphasis added).

Relying on In re Stryker, 435 F.2d 1340, 1341-42, 168 USPQ 372, 373 (CCPA 1971), appellants argue that the '368 application discloses the "genus" of transmitting "information," and that the '293 application is directed to the particular "species" of transmitting "advertising information." While the specification discloses the transmission of distance information and help messages to a golfer based on the golfer's position as determined by GPS, it does not in fact disclose the transmission of generic "other information" to a golfer based on the golfer's position as determined by GPS. Thus, even if advertising could be viewed as a subset of "other information," the transmission of "other information" based on position as determined by GPS was not disclosed, and in particular the transmission of positional advertising was not disclosed. "Entitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed. It extends only to that which is disclosed." Lockwood, 107 F.3d at 1571-72, 41 USPQ2d at 1966. Huston's parent application disclosure fails to support the presently claimed "displaying an advertising message" based on position, and the effective filing date is therefore December 30, 1994.

It follows that the Board properly considered the Paul and Dimitriadis patents as prior art under 35 U.S.C. § 102(e). Paul has an effective filing date of May 2, 1994, and Dimitriadis has an effective filing date of October 11, 1994.

It also follows that the Board properly rejected the Horne declaration. In his declaration, Horne repeatedly referred to December 1991 and made clear that he was addressing whether it would have been obvious in December 1991 to combine the Wang and Fukushima prior art references:

What is lacking from Wang and Fukushima is anything that would have taught, suggested, or motivated me or one of ordinary skill in the art in December 1991 to modify the golf course ranging system of Wang by adapting the GPS-vehicle positioning system of Fukushima to become a GPS-based or a differential GPS-based golf distance determining method and system as described and claimed in the present U.S. Application Serial No. 08/366/994.

Horne Decl. ¶ 15 (emphasis added).

Contrary to the examiner's assertion, the use of spread spectrum code modulated signals in Wang does not suggest that a GPS-based system, such as the system in Fukushima, could be successfully substituted for the ground-based system of Wang. Spread spectrum code modulated signals were well-known in December 1991 and were simply one available technique for multiple access communications.

Horne Decl. ¶ 16 (emphasis added).^[5]

Thus, we find that substantial evidence supports the Board's determination of the effective filing date and its rejection of the Horne declaration.

II

The second question is whether the Board's obviousness determinations should be sustained.

A. Claim 1

In essence, the Board conducted its obviousness determination in two steps, corresponding to the two key elements it identified in claim 1. First, it identified a set of references that taught the use of a GPS system on a golf course to determine the location of a golfer.^[6] Second, it identified prior art that taught the transmission of positional advertising, i.e., the display of an advertising message to the golfer on the golf course based on the position of a remote receiver relative to predetermined locations on the golf course.

1. The use of a GPS system on a golf course

The Board found the use of a GPS system on a golf course obvious in light of the combination of the Wang and Fukushima patents:

[I]t would have been obvious at the time the invention was made (*i.e.*, December 30, 1994) to a person having ordinary skill in the art to have modified Wang's system to utilize a global positioning satellite receiver on the golf course to determine the position of the remote receiver on the golf course using a global positioning satellite system in view of Fukushima's teachings.

Huston, slip op. at 14.

Appellants argue that there was no motivation or suggestion to combine Wang and Fukushima, that the proposed modification would change the operating principle of the claimed invention, that there was no reasonable expectation of success in view of the teachings of

Wang, and that the claim limitations were not taught or suggested by the proposed combination. We need not address these arguments because, later in its opinion, the Board identified a single piece of prior art, Paul, that fully disclosed the use of GPS on a golf course to determine the position of a golfer. Noting that Paul "is the closest piece of prior art (from the prior art before us on appeal) to the claimed invention," Huston, slip op. at 22 n.6, the Board fully described the teachings of Paul:

Paul teaches (see abstract) a golf information and management system utilizing the Global Positioning System A golf cart 12 or player receives the signals from the four satellites, compares the clocked signals and an on-board computer reads the clocked signals and determines the position, in three dimension[s], of the receivers (velocity of the receivers is also available). There is a fixed base location 8 on the golf course that also receives the satellite signals and transmits a differential correction signal, via another channel, to the golf cart or player, where the computer determines the position of the cart or player to within a yard. The computer may be pre-loaded with golf course information, such as pin position, hazard positions, etc., where the computer via a graphical display 18 communicates to the player exact distances to the pre-loaded known physical features of the golf course, and displays information needed by the player to determine his next shot, including a video presentation of a golf pro's suggestions. In addition, the cart may communicate with the base station where the base station can track each cart or player on the course.

Id., at 22-23 (emphases added). Thus, the only limitation of claim 1 lacking in Paul was positional advertising," i.e., the transmission of location-specific advertising based on the position of a golf cart relative to predetermined locations on a golf course. Id.

Thus, the Board recognized that a single piece of prior art fully taught the use of a GPS system on a golf course to determine a golfer's position. As a result, appellants' arguments challenging the Board's combination of Wang and Fukushima to show that the use of GPS on a golf course was obvious are baseless in view of Paul.^[7]

We note that the Board's decision could have been clearer, in that it could have simply cited Paul as prior art teaching the use of GPS on a golf course, rather than combining Wang and Fukushima to establish that premise. Nonetheless, the Board's reasoning can be readily discerned, and the fact that the Board found the use of GPS on a golf course obvious in light of the combination of Wang and Fukushima, rather than in light of Paul itself, does not compel reversal.

We conclude that the Board did not err in concluding that the use of a GPS system on a golf course to determine the position of a golfer would have been obvious in light of the prior art at the time of invention.^[8]

2. Positional advertising

The only remaining question as to claim 1 is whether it would have been obvious to one of ordinary skill to combine a system that uses GPS on a golf course with the transmission of positional advertising. The Board found that this missing element is disclosed in Dudley:

Dudley teaches the use of a golf information system which automatically provides golfers with reference position and distance information from a number of points on a particular golf course hole. . . . Dudley discloses that the system can further be used to display advertising messages and to provide golf course management features such as monitoring golf cart usage and speed of play. Dudley teaches that various types of information besides position and yardage could also be outputted by his system including advertising messages to be displayed at preselected times and that the look-up table contained in EPROM 90 and RAMs 92 and 94 for microcontroller 88 can also include advertising messages which are activated by particular tags 24.

Huston, slip op. at 12 (emphasis added). The Board noted that:

[I]t would have been obvious at the time the invention was made (i.e., December 30, 1994) to a person having ordinary skill . . . to display advertising messages to the golfer on the golf course based on the position of the remote receiver in view of Dudley's teachings.

Id. at 14, and further noted:

In our view, [it] . . . would have [been] obvious at the time the invention was made to a person having ordinary skill in the art to . . . display advertising messages to the golfer on the golf course based on the position of the remote receiver based on Dudley's teachings for the self-evident advantages thereof.

Id. at 16-17 (emphasis added).

To establish obviousness, the Board must do more than identify the elements in the prior art. There must also be "some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead the individual to combine the relevant teachings of the references." In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) (emphasis added). "The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (emphasis added).

Appellants complain that the Board did not specifically find a suggestion or motivation

to combine the references in the prior art, except through its reliance on common knowledge and common sense. They urge that In re Lee, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), requires that we vacate and remand to the Board. We disagree.

Lee involved a situation in which the Board relied on its “general knowledge to negate patentability.” In re Lee, 277 F.3d at 1345, 61 USPQ2d at 1435. In such circumstances we held that such “knowledge must be articulated and placed on the record.” Id. The court further explained “that ‘deficiencies of the cited references cannot be remedied by the Board’s general conclusions about what is ‘basic knowledge’ or ‘common sense.’” Id. at 1344, 61 USPQ2d at 1434-35 (quoting In re Zurko, 258 F.3d 1379, 1385, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001)) (citation omitted).

Here we confront quite a different situation. Despite the Board’s passing reference to “common knowledge and common sense,” Huston, slip op. at 7, the Board in fact has not relied on its own general knowledge. Rather, it has found the motivation in the prior art references themselves. Its conclusions are cryptic, but they are supported by the record. The Paul reference indeed is quite specific in describing the disadvantages of the radio frequency system used in Dudley:

The system uses embedded radio frequency (RF) tags to “mark” a course. The RF tags are detected by a cart mounted unit which then displays yardage to pin and yardage to hazards on an alphanumeric screen. The system has the following limitations: the screen is not dynamic, the system provides limited information beyond simple yardage differentials, and the entire information content is based on relative position and not actual location on the course. The golf course operator must commit to an extensive survey and installation of related markers and equipment before the system can be demonstrated.

Paul, col. 2, ll. 41-51. Thus, Paul provides the motivation to substitute a GPS system for the radio system of Dudley. Under such circumstances the Board’s decision must be affirmed despite its failure to specifically cite the Paul reference for this purpose.

As the Supreme Court stated,

While we may not supply a reasoned basis for the agency’s action that the agency itself has not given, SEC v. Chenery Corp., 332 U.S. 194, 196 (1947), we will uphold a decision of less than ideal clarity if the agency’s path may reasonably be discerned.” Colorado Interstate Gas Co. v. FPC, 324 U.S. 581, 595 (1945).

Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc., 419 U.S. 281, 285-86 (1974). See also Greyhound Corp. v. ICC, 668 F.2d 1354, 1362-63 (D.C. Cir. 1981) ("[T]his court has recognized judicial indulgence toward administrative action to the extent of affirming an order when an agency's path, though convoluted, can be discerned.") (quoting Midwestern Gas Transmission Co. v. FERC, 589 F.2d 603, 615 (D.C. Cir. 1978) (per curiam)). This is a situation where the Board's "path may reasonably be discerned." In short, we find that substantial evidence supports the Board's determination that there is a sufficient motivation to combine Dudley with a GPS system on a golf course, and hold that the Board's reasoning is sufficient. [9]

Accordingly, we uphold the Board's decision and affirm the Board's obviousness rejection of claim 1.

A. Claims 21 and 24

We also affirm the rejection of claims 21 and 24. The Board properly concluded that the additional features of claims 21 and 24 were obvious in light of the prior art. Claim 21 adds the limitation of a differential correction means for determining and transmitting an error correction. The Board agreed with the examiner that it would have been obvious to incorporate differential processing in a GPS system to increase accuracy as taught by either Hurn or RTCM:

The examiner determined that the claimed subject matter would have been obvious at the time the invention was made to a person having ordinary skill in the art to combine the teachings of Wang, Fukushima and Dudley as set forth . . . above and to further incorporate differential processing in the GPS system to increase accuracy as taught by either Hurn or RTCM. We agree.

Huston, slip op. at 19-20. The Board further noted that "the applied prior art clearly teaches the benefits (e.g., greater accuracy) of 'differential GPS' over 'GPS.'" Id. at 20. We agree. See Hurn at 58-59 ("GPS is by far the most accurate global navigation system ever devised. But even its incredible accuracy can be boosted using a technique called 'differential GPS.' With it, GPS can achieve measurement accuracies of better than a meter. . . . Differential GPS measurements can be much more accurate than standard GPS measurements.").

Claim 24, which depends from claim 21, requires a communication link to receive and

transmit the advertising message. The Board sustained the examiner's rejection of claim 24:

In our view, Paul clearly teaches his communication link being operable for receiving an advertising message and for sending the received message to the display means for display and thus the appellants' argument fails to establish any error in the examiner's rejection of claim 24 based upon Fukushima in view of Wang and Paul and further view of either Hurn or RTCM.

Huston, slip op. at 31-32. We agree with the Board that the additional limitation of a communications link is disclosed in Paul and therefore affirm this rejection.

CONCLUSION

Because we find that the invention of claim 1 would have been obvious to one skilled in the art in December 1994 in view of Wang, Fukushima, and Dudley; that claim 21 would have been obvious in light of Wang, Fukushima, and Dudley, and either Hurn or RTCM; and that claim 24 would have been obvious in light of Fukushima, Wang, and Paul and either Hurn or RTCM, we affirm.

COSTS

No costs.

AFFIRMED

United States Court of Appeals for the Federal Circuit

02-1048
(Serial No. 08/926,293)

IN RE CHARLES D. HUSTON and DARRYL J. CORNISH

PROST, Circuit Judge, dissenting-in-part.

I respectfully dissent from that part of the majority opinion affirming the Board's rejection of claim 1 as unpatentable under 35 U.S.C. § 103(a). The majority concludes that substantial evidence supports the Board's determination that sufficient motivation existed to combine Dudley with a GPS system on a golf course, stating, "this is a situation where the Board's 'path

may reasonably be discerned." Ante at 21 (quoting Colo. Interstate Gas Co. v. FPC, 324 U.S. 581, 595 (1945)). Rather than discerning the Board's path, however, I respectfully submit that the majority has charted an analytical course of its own. Because "we may not supply a reasoned basis for the agency's action that the agency itself has not given," Bowman Transp., Inc. v. Arkansas-Best Freight Sys., Inc., 419 U.S. 281, 285-86 (1974) (citing SEC v. Chenery Corp., 332 U.S. 194, 196 (1947)), I dissent. I would remand that portion of the Board's decision holding claim 1 of the '293 application unpatentable as obvious so that the Board could fully set forth the reasons why one of ordinary skill in the art would have been motivated to select and combine the relevant prior art references.

The Board sustained the examiner's rejection of claim 1 as obvious on two specific, alternative grounds. Under both of these stated rationales, the Board concluded that the combination of Fukushima and Wang taught the use of a GPS system to determine the location of a receiver on a golf course. Ex parte Huston, No. 00-0947, slip op. 14, 26 (Bd. Pat. App. & Int. July 21, 2001). The Board then cited Dudley and, alternatively, Paul or Dimitriadis as teaching the display of advertising messages based on the receiver's position. Id. The Board found the motivation to combine these two sets of references in the prior art itself. According to the Board, "the combined teachings of Wang, Fukushima and Dudley would have made it obvious at the time the invention was made to a person having ordinary skill in the art" to (1) replace Wang's radiolocation system with GPS, because Fukushima taught the advantages of GPS's simplified, inexpensive navigation system, id. at 16-17; and (2) display advertising messages to a golfer on the course based on the position of the receiver, because Dudley taught "the self-evident advantages" thereof, id. at 17. Similarly, the Board found appellants' argument that insufficient motivation existed to combine Fukushima, Wang, and either Paul or Dimitriadis "unpersuasive for the reasons expressed above in our discussion of" the examiner's rejection under Wang, Fukushima, and Dudley. Id. at 26-27. Additionally, the Board noted that Paul specifically taught the broadcasting of advertisements to golf carts, id. at 27.

The majority does not affirm the Board on either of these two grounds. Instead, it

concludes that “Paul provides the motivation to substitute a GPS system for the radio system of Dudley.” The majority concedes that the Board never “cite[d] the Paul reference for this purpose,” and the majority’s sole support for its conclusion is a passage from the Paul reference that does not appear in the Board’s opinion. Ante at 21. Nevertheless, the majority maintains that its opinion does nothing more than “discer[n]” the Board’s “cryptic” conclusions, id. at 20-21. With all due respect, I cannot agree that the Board’s conclusions as to the combination of Paul and Dudley are “cryptic”—they are nonexistent. As this court held in In re Sang-Su Lee, 277 F.3d 1338, 1345-46, 61 USPQ2d 1430, 1435 (Fed. Cir. 2002), “review of administrative decisions must be made on the grounds relied on by the agency. ‘If those grounds are inadequate or improper, the court is powerless to affirm the administrative action by substituting what it considers to be a more adequate or proper basis.’” Id. (quoting SEC v. Chenery Corp., 332 U.S. 194, 196 (1947)). Where, as here, the Board’s stated grounds for affirming the examiner’s rejection of claim 1 as unpatentable are clearly insufficient, this court, in my view, is compelled to remand.

[1] Both the appellant and the Board erroneously cited the ’093 patent, rather than the ’368 application, when discussing whether the ’293 application should benefit from the December 10, 1991, filing date. See 35 U.S.C. § 120 (2000) (priority for benefit of filing date derives from earlier filed application). Because there is no material discrepancy between the patent and the application, however, there is no need to remand to the PTO.

[2] Section 102(e) provides: “A person shall be entitled to a patent unless—(e) the invention was described in—(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent” 35 U.S.C. § 102 (e) (2000).

[3] Section 120 provides:

An application for patent for an invention disclosed in the manner provided by the

first paragraph of section 112 of this title in an application previously filed in the United States . . . which is filed by an inventor or inventors named in the previous application shall have the same effect, as to such invention, as though filed on the date of the prior application, if filed before the patenting or abandonment of or termination of proceedings on the first application

35 U.S.C. § 120 (2000).

[4] In filing an appeal to the Board, an applicant must group the claims according to the arguments to be presented, 37 C.F.R. § 1.192(c)(7) (2002), or argue the patentability of each claim separately. Here, appellants did not separately argue these claims.

[5] Horne made additional references to December 1991: "The spread spectrum code modulation communication technique used in Wang was known long before December 1991 and was simply one available technique for multiple access communications." Horne Decl. ¶ 10 (emphasis added). "The structure of GPS transmissions and the use of GPS as a position-fixing system were known long before December 1991 and were also well-known as of August 1990 when Wang was filed with the U.S. Patent Office." Horne Decl. ¶ 12 (emphasis added). "In December 1991, as represented by Wang and Fukushima, GPS-based positioning systems, ground-based positioning systems, and direct sequence spread spectrum code modulated communication protocols were all known." Horne Decl. ¶ 14 (emphasis added).

[6] See Graham v. John Deere Co., 383 U.S. 1, 17 (1966) (setting out the central factors relevant to an obviousness inquiry).

[7] Appellants admit that Paul discloses all of the claimed features of the invention in claim 1, with the exception of positional advertising: "The Board's reading of Paul is essentially correct, except for its characterization of Paul as 'prior art.' . . . [T]he parent '093 patent discloses the essential features of Paul discussed by the Board except for the specific broadcast messages." (Appellants' Br. at 41.)

[8] We also find no error in the Board's determination of the level of ordinary skill in the art. Appellants contend that the Board erred by not more precisely identifying the level of ordinary skill in the art, and argue that the Board should have found a person with ordinary skill to be "a golfer, golf professional and/or golf course manager." (Appellants' Br. at 37.) But appellants have not shown how a different, more precise definition of the pertinent art would have changed the result.

[9] The dissent suggests that the majority opinion relies on a combination of references different from the combination relied upon by the Board. That is not correct. We sustain the Board based on its combination of the Wang and Fukushima references together with Dudley. We rely on the Paul reference (cited by the Board itself as the "closest prior art," Huston, slip op. at 22 n.6) for only two purposes, first, to reject appellant's contention that the Board could not properly combine Wang and Fukushima to find the use of GPS on a golf course obvious (since Paul itself demonstrates that very combination as noted by the Board, Huston, slip op. at 22-23), i.e., in rebuttal of an argument by appellant concerning the obviousness of a previously cited combination of reference. Second, we cite Paul as a source of motivation to combine Wang, Fukushima, and Dudley. The Board's cryptic finding of a

motivation to combine may be affirmed because it was supported in the record, even though the record reference was not quoted, just as a district court's factual finding may be sustained if supported by record evidence not specifically cited by the district court, see generally Applewood Landscape & Nursery v. Hollingsworth, 884 F.2d 1502 (1st Cir. 1989) (citing a series of cases holding that "[a]s long as such 'brief' and 'pertinent' findings are made and 'the record as a whole supports the district court's findings of fact,' we can affirm its result.").

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